ASEAN
THAILAND 2019

ASCN2019

ASEAN Smart Cities Network

Advancing Partnership
For Sustainability

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Content

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H.E. Mr. Prayut Chan-O-Cha
Prime Minister of the Kingdom of Thailand

ASEAN Countries' Leaders (Source: Ministry of Foreign Affairs, Thailand)

1 Chairman's Statement of the 35th ASEAN Summit Bangkok/ Nonthaburi, 3 November 2019

We welcomed the continued progress in the ASEAN Smart Cities Network (ASCN), particularly in the implementation of the Smart City Action Plans, which contribute to the development of smart and sustainable cities.

We noted the adoption of the ASCN Terms of Reference at the Second Annual ASCN Meeting on 23 August 2019 in Bangkok, and the enhanced interaction with external partners including Dialogue Partners and G20 countries, as well as congratulated Singapore for being appointed as the ASCN Shepherd who will provide advice and support to the ASCN Chair for the next two years.

We also acknowledged the support of ASEAN Dialogue Partners in facilitating partnerships for ASCN cities, and in providing support to develop ASCN capacity on smart city planning.

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2 Executive Summary

Smart city development has become a major topic for economic and social development nationwide and globally, with cities striving to integrate technology and urban development to improve the quality of life of their citizens. At the 32nd ASEAN Summit in April 2018, the ASEAN Leaders established the ASEAN Smart Cities Network (ASCN) as a collaborative platform where cities from the ten ASEAN Member States (AMS) work towards the common goal of smart and sustainable urban development, using technology as an enabler. The Inaugural Meeting of the ASCN was held on 8 July 2018 in Singapore and it was planned for ASCN members to meet annually to discuss progress on each city's action plan, to launch new projects with private sector solution providers, and to explore new opportunities with ASEAN's external partners.

Continuing on to 2019, as ASEAN Chair and ASCN Chair, Thailand has the honor to continue the development of ASEAN Smart Cities Network through two ASCN events; namely ASCN Roundtable Meeting and Conference on Smart and Sustainable Cities (June), and ASCN Annual Meeting and ASCN Conference & Exhibition (August) which were attended by delegates from the AMS, including the National Representatives (NRs), Chief Smart City Officers (CSCOs), the ASEAN Secretariat, as well as various government and private-sector agencies from ASCN's external partners which include China, Japan, Korea, and USA.

The events have provided a forum for the exchange of information and best practices on smart city development, in particular, the implementation of the Smart City Action Plans (SCAPs), the adoption of the ASCN Terms of Reference (TOR) to institutionalize Smart City platform, the discussion on the development of ASCN Monitoring and Evaluation Framework to gather information on the needs and challenges of cities and the modalities on the engagement with external partners. The discussion will be continued and expected to be finalized at the 3rd ASCN Meeting in Viet Nam in 2020. Under the good hand of next ASEAN Chairmanship by Viet Nam, ASCN members look forward to further strengthening the collaboration in ASEAN Smart Cities Network and continuing on working closely with external partners to achieve smart and sustainable city development in ASEAN and beyond.

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Summary of ASCN Roundtable Meeting and Conference on Smart and Sustainable Cities on 6-7 June 2019

During the Handover of the ASEAN Chairmanship Ceremony last year in Singapore, Thai Prime Minister stressed that Thailand would continue the good work on the issues to which ASEAN had given priority over the past year to create continuity and sustainability for the ASEAN Community among which them is ASCN. Thailand is privileged to continue the development of ASCN through two activities in 2019 which include ASCN Roundtable Meeting and Conference on Smart and Sustainable Cities (June), and ASCN Annual Meeting and ASCN Conference & Exhibition (August).

National Representatives and Chief Smart City Officers from ASEAN Member States and the ASEAN Secretariat participated in the ASCN Roundtable Meeting and Conference on Smart and Sustainable Cities on 6 June in Bangkok to report progress made in ASEAN Smart Cities Network. It was chaired by Ajarin Pattanapanchai, Permanent Secretary, Ministry of Digital Economy and Society, and National Representative of Thailand to the ASCN.

ASCN Members briefed the meeting on the status of their respective smart city projects, and discussed various issues pertaining to the ASCN processes, including the draft ASCN Term of Reference and Monitoring & Evaluation Framework as well as the proposed membership expansion criteria. The documents were expected to be adopted at the 2nd ASCN Annual Meeting in August 2019 before presenting to ASEAN Leaders for notation during the 35th ASEAN Summit in November this year.

An Open House of the Digital Economy Promotion Agency (depa) Headquarters was also conducted in the afternoon, with briefing sessions on the various programs under Smart City Thailand—an initiative that is part of the Thai Government's Thailand 4.0 blueprint.

Besides the roundtable meeting and visit to depa, there were exhibition by pilot ASEAN smart cities and conference on theme of "Smart and Sustainable Cities" on 7 June which included panel discussions on Sustainable Development Goals and international cooperation in smart city development, as well as talks on smart city solutions and best practices.


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Smart Cities Network


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4 Summary of

ASCN Annual Meeting and ASCN Conference & Exhibition 22-24 August 2019

Representatives from ASEAN's 26 smart cities and ASEAN Secretariat held the annual ASCN meeting on 23 August in Bangkok to discuss the smart city development framework and follow up on the progress of each pilot smart city. The meeting adopted the ASCN Terms of Reference would be submitted for notation by the ASEAN Leaders at the 35th ASEAN Summit in November. Participants elected Singapore as ASCN shepherd to provide advice and support to the ASCN Chair for the next two years, in line with the Terms of Reference. They also discussed the development of the ASCN monitoring and evaluation framework and modalities for engagement with external partners. The Meeting was briefed by external partners which include China, Japan, Korea, and USA on their respective smart city initiatives, and plans for supporting ASCN.

Parallel to the meeting, the ASCN Conference and Exhibition was held on 22-24 August, including exhibition by pilot ASEAN smart cities and conferences in the field of town and city planning by experts from across the world. G20 countries also attended to share their experience and best practices on smart city development, following on the initiative proposed by the Prime Minister of Thailand at the G20 Summit in Osaka in June 2019.

The Phuket Smart City White Paper, developed jointly by the Digital Economy Promotion Agency, Huawei, and Roland Berger, was also launched as a guiding document for developing smart cities and provinces in Thailand. It is hoped to serve as reference for other interested cities.


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ASCN Annual Meeting 2019
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A Vibrant Democracy
An Inclusive Economy
Thriving Neighborhoods
Healthy Lives
A Livable Climate
Efficient Mobility
Modern Infrastructure


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Chairperson's Statement

On the ASEAN Smart Cities Network Annual Meeting 23 August 2019, Bangkok, Thailand

Ms. Ajarin Pattanapanchai
Permanent Secretary,
Ministry of Digital Economy and Society

On 23 August 2019, Thailand hosted the ASEAN Smart Cities Network (ASCN) Annual Meeting in Bangkok, bringing together the National Representatives and Chief Smart City Officers from the 26 ASCN cities in ten ASEAN Member States, as well as the ASEAN Secretariat. The Meeting deepened cooperation to promote the development of smart and sustainable cities in ASEAN, as part of the process of building a people-oriented and people-centred ASEAN Community that leaves no one behind and looks to the future. The Meeting adopted the ASCN Terms of Reference to be submitted for notation by the ASEAN Leaders at the 35th ASEAN Summit in November this year. The Meeting also discussed the development of a Monitoring and Evaluation (M&E) framework and modalities for engagement with external partners. Progress in the development of the ASCN will be reported to the 35th ASEAN Summit to be convened in Bangkok at the end of the year.

"...leaves no one behind..."

The ASCN attaches importance to dialogue, interaction and cooperation with external partners, recognizing the mutual benefits that can be gained from the sharing of best practices on the development of smart and sustainable cities as drivers of sustained growth and sustainable development. In this connection, G20 countries were invited to participate at this ASCN, following on the initiative proposed by the Prime Minister of Thailand at the G20 Summit in Osaka in June. The participation of G20 representatives helped enrich the dialogue, focusing on how smart solutions could be utilised to address challenges of rapid urbanization, promote enhanced connectivity, including digital connectivity, through the "connecting the connectivities" approach. This interaction between the ASCN and external partners, in particular the G20, will also help promote cooperation in areas such as connectivity and sustainable development, which are key priority areas identified in the ASEAN Outlook on the Indo-Pacific (AOIP) which was adopted by the ASEAN Leaders at the 34th ASEAN Summit in Bangkok in June 2019. The ASCN and its engagement with external partners will continue to be an important catalyst for stability, progress and prosperity in the region and beyond. We look forward to Viet Nam Chairmanship of the ASCN in 2020.

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Viet Nam Chairmanship

A SPEECH BY DEPUTY MINISTER OF CONSTRUCTION OF VIET NAM, HE. MR. NGUYEN VAN SINH AT THE ASCN ANNUAL MEETING IN BANGKOK

Honorable representative of the Government of Thailand, Chairperson of ASEAN Smart Cities Network, National Representaves of ASEAN countries, Representatives of cities in ASCN, Ladies and Gentlement,

First of all, I would like to express my sincere thanks for the organization of this important event and the hospitallity of the host country of Thailand extended to me and my delegation.

As a member of ASCN, Viet Nam highly appreciates the achievements as well as the future goals of the Network. Although being established for 1 year, ASCN initially shows it has made an active start through establishing common frameworks for implementing its activities; at the same time, it supports member cities in registering Smart City Action Plans to be actively implemented in practice. In addition, ASCN has also promoted its role as a focal point to promote multilateral cooperation of ASEAN +6, including with Japan, South Korea, China, India, Australia and New Zealand.

In the coming time, Viet Nam will continue to carry out the responsibilities and duties as member of the Network under the conditions available in the country, actively step by step approach, to learn and develop smart urban areas suitable to Viet Nam situation for integration with ASEAN and the world. In addition, Viet Nam expects activities of the ASCN to be more and more integrated, enhancing the mutual share of experiences, how to do things and further promoting the realization of effective smart urban projects in member cities, etc.

In 2020, Viet Nam will be the Chairman of ASEAN and the host country of the ASCN. Viet Nam is currenly developing an organizational scheme of activities with the following objectives:

- To facilitate the exchange of experiences and formation of links on smart urban development among countries, localities, private enterprises and other stakeholders in ASEAN;

- To step by step research establish legal frameworks, promote smart urban development for green and sustainable growth;

- To enhance the promotion and attraction of international investment and cooperation as well as the utilization of domestic resources to implement action plans, as well as to carry out specific smart urban development projects.

The preliminary plan for organizing ASEAN Smart City Network activities in 2020:

1. Roundtable Meeting and Conference ASCN 2020 (tbc)

- Theme: Smart cities towards green growth and sustainable development;

- Duration & time: 2 days begining of June 2020.

- Location: Ha Noi and/or Da Nang.

- Main activities: Discussion of the M&E, Mayors Talks, Roundtable Meeting with themes of smart transportation, lighting and urban flooding; exhibition and business networking; site visit.

2. The ASCN 2020 Annual Meeting:

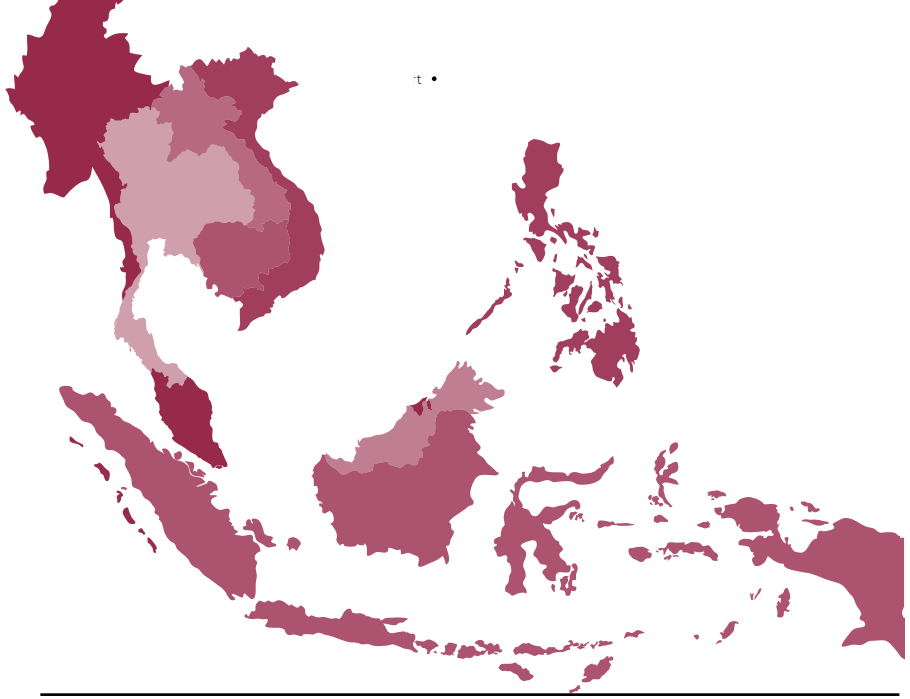
- Duration & time: 3 days at the end of August
or in early September 2020;

- Location: Ha Noi and / or Da Nang.

- Main activities: National reports on smart city development, implementation of action plan and prioritized projects; mayors talks, conferences; exhibition and business networking; site visit.

We would like to invite and look forward to welcoming ASCN members to participate in the activities of ASCN 2020 activities in Viet Nam.

Thank you for your attention.



TERMS OF REFERENCE
ASEAN Smart Cities Network (ASCN)

Establishment of the ASEAN Smart Cities Network (ASCN)

1. The ASCN was established by the Leaders at the 32nd ASEAN Summit held in April 2018 in Singapore. It was created as a platform for ASEAN cities to share experiences and expertise in tackling urbanisation through innovative approaches, including technological and non-technological solutions. The ASCN aims to synergise development efforts, share best practices, catalyse opportunities for sustainable development, and capacity-building.

2. The ASCN convened its in augural meeting in July 2018 in Singapore, during which the Network endorsed the ASEAN Smart Cities Framework (ASCF), which was adopted by the Leaders at the 33rd ASEAN Summit in November in Singapore.

Scope of Work

3. The ASCN shall provide advisory and strategic inputs on smart city initiatives of its Members, to advance the agenda of smart cities in ASEAN. The ASCN shall:

a. Propose, implement, and monitor the progress of measures or activities to advance smart city development in the region, in line with the ASEAN Community Vision 2025 and the ASCF;

b. Explore complementarities and share best practices on smart city development among Members and external partners;

c. Promote partnerships between ASCN Members and external partners, including private sector solution providers and multilateral financial institutions, to catalyse practical and viable projects with tangible outcomes, in line with the articles of the ASEAN Charter;

d. Work out directions and guidelines for ASCN's engagement with external stakeholders, such as the private sector, international organisations, civil society organisations, Dialogue Partners (DPs), among others, taking into consideration ASEAN centrality and the efficacy of ASCN as an ASEAN-led mechanism;

e. Make decisions on the expansion of the Network, including by agreeing on guidelines on membership of other ASEAN cities by consensus and in line with the guidelines for ASCN's engagement with external stakeholders; and,

f. Promote smart city standards among ASCN Members in line with the work of relevant ASEAN sectoral bodies and with due consideration for local diversity.

Membership

4. Members of the ASCN shall be the ASEAN Member States (AMS) and ASCN cities. Each AMS shall nominate one relevant national-level entity in the national government to perform the role of National Representative (NR) with a focal point, ideally a Senior Officials' Meeting (SOM)-level official, overseeing smart and sustainable development, and another official as alternate NR. Each member city shall be represented by one CSCO, which may be the city's Chief Urban Planner or Chief Resilience Officer or equivalent.

5. Any change in membership (NRs, CSCOs, and/or contact details) shall be communicated to the ASCN Secretariat.

6. Membership may expand as the ASCN matures, as agreed by the ASCN and in accordance with any guidelines that may be agreed by the ASCN.

7. Interested cities applying for ASCN membership shall be nominated through NR and submit Smart City Action Plan (SCAP) for ASCN's consideration. The SCAP shall include but not limited to vision/ strategic plan, focus area/smart city solutions, smart city infrastructure plan, city data platform plan, and sustainability model for the city.

Chairmanship

8. The ASCN Chairmanship shall follow the ASEAN Chairmanship. The NR of the ASEAN Country Chair shall be the Chair of the ASCN.

Meetings and Activities

9. The ASCN shall meet at least once a year, as called by the Chair.

10. The participants shall include the Chair, NRs, CSCOs, Shepherd, and ASCN Secretariat. Other stakeholders such as private sector, international organisations, among others, may be invited as required and mutually agreed.

11. The hosting of the Meetings and the cost of organising shall be borne by the host country.

12. The ASCN shall come up with annual programmes and activities, including those that shall be hosted by the ASCN Chair and those that shall be carried out by Members. The programmes and activities shall be considered ASCN activities once they are submitted to all ASCN members with concept notes before being convened.

13. The programmes and activities to be considered as ASCN activities shall be proposed to all ASCN members with concept notes submitted for approval, including through no objection, at the annual ASCN meeting or on an ad-referendum basis.

Roles and Responsibilities

14. Chair

a. Administer the ASCN meetings; and

b. Guide the activities of the ASCN, in coordination with the ASEAN Secretariat and the Shepherd.

15. Shepherd

a. Provide continuity across ASEAN Chairmanships by advising and supporting the ASCN Chair, as appropriate and in coordination with the ASEAN Secretariat, on the ASCN's activities and agenda for each year;

b. Organise appropriate programmes and initiatives to promote the development of the ASCN, in consultation and coordination with the Chair and the ASEAN Secretariat;

c. The Shepherd shall be an AMS decided by the ASCN by consensus, and may be nominated by any member of the ASCN including the Chair;

d. The Shepherd may designate an individual to serve as its representative in the ASCN;

e. Upon appointment, an AMS may serve as Shepherd for 2 years; and,

f. The Shepherd appointment and role is subject to review every 2 years, with the option for the appointment to be renewed for another 2 years upon the agreement of other AMS;

16. National Representatives

a. Lead their AMS' delegations at the annual meetings of the ASCN;

b. Provide strategic input to, and participate in, the activities of the ASCN; and

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c. Harmonise AMS' efforts on the implementation of the ASCF, SCAPs and smart city projects across all levels, and provide updates to the ASCN Secretariat on an annual basis, or upon request by the Chair.

17. Chief Smart City Officers

a. Participate in the activities of ASCN;

b. Implement, monitor, and review the SCAPs for their respective cities, in coordination with the NRs;

c. Develop and manage the implementation of smart city projects, in coordination with the NRs and external partners; and

d. Prepare summary reports on smart city projects on an annual basis or upon request by the Chair, for submission to the ASCN Secretariat through the NRs.

18. ASCN Secretariat

a. The ASEAN Secretariat shall be the ASCN Secretariat, and provide secretariat support during the Meetings;

b. Facilitate the activities and reporting of the ASCN, in coordination with the Chair and Shepherd;

c. Prepare annual reports on the ASCN activities based on the outcomes of the annual Meetings, and in line with the ASCF and the ASCN Monitoring and Evaluation (M&E) Framework;

d. Conduct periodic evaluation of the ASCF and/or ASCN projects in line with the ASCN M&E Framework;

e. Liaise with other ASEAN Secretariat divisions and external stakeholders on related initiatives;

f. Maintain a regional repository of information including contact list, documents, and knowledge products on the ASCN; and,

g. Track the progress of ASCN partnerships with external partners.

Decision-making

19. As a basic principle, decision-making in ASCN shall be based on consultation and consensus. Where consensus cannot be reached, ASCN may decide on the next course of action.

Reporting Mechanism

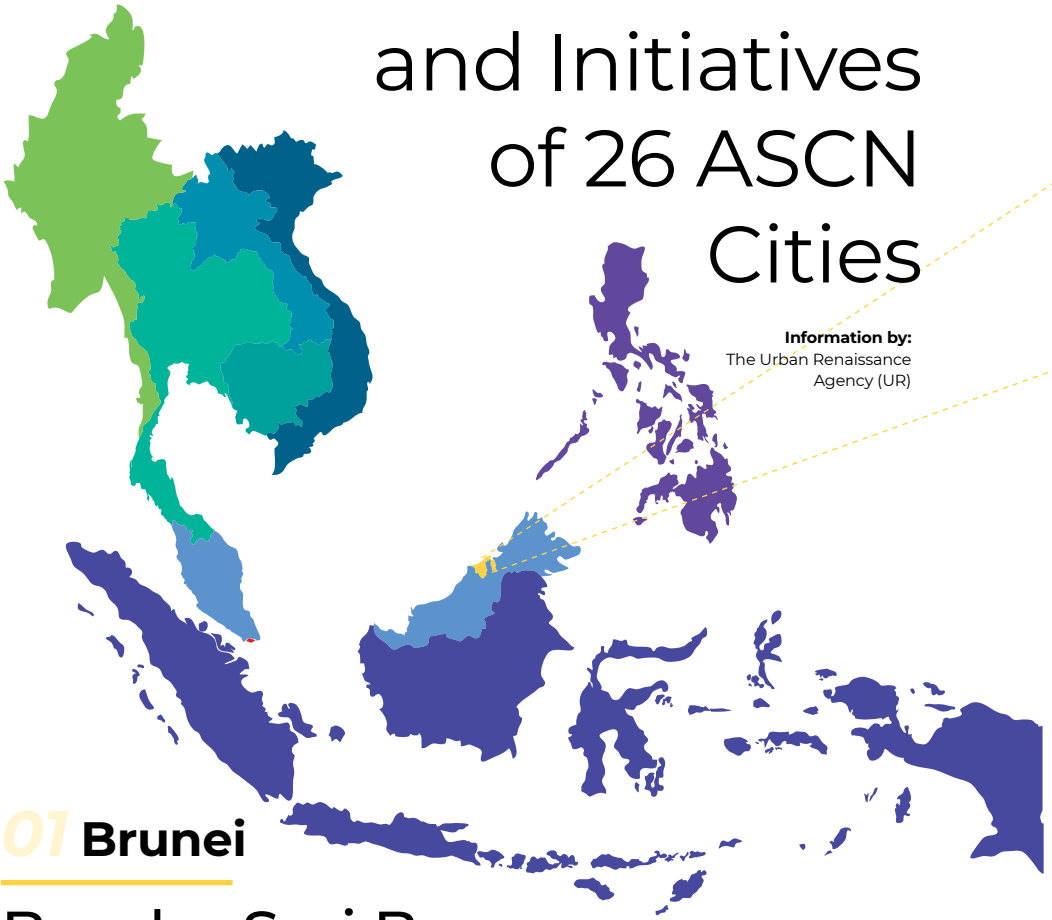
20. The ASCN shall report to the Joint Consultative Meeting (JCM). The Chair and Shepherd shall be the resource persons, and shall attend and submit the ASCN progress report, including key achievements, to the JCM. The ASCN report shall be distributed to relevant sectoral bodies for notation.

21. The ASCN may review and revise the reporting mechanism to best support smart city development in all ten AMS, subject to the approval of the JCM.

Amendments

22. These Terms of Reference may be amended at any time upon agreement of the ASCN Members through consultation and consensus.

Current Status and Initiatives of 26 ASCN Cities



Information by:
The Urban Renaissance Agency (UR)

01 Brunei

Bandar Seri Begawan

Area: 100.4 km²
Population: 64,409
Population density: 641 / km²

Current status of the city

Bandar Seri Begawan, the capital of Brunei, is located in the lower reaches of the Brunei River, which flows to the Brunei Gulf. With a strong economy supported by oil and natural gas development, in contrast with its excellent urban area, it maintains a traditional water village along the Brunei River called Kam pong Ayer

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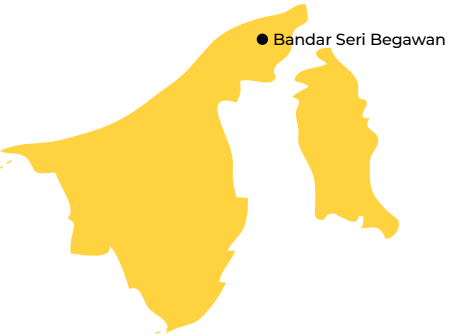

Smart city action plan

Vision: Developing Kampong Ayer as the Jewel of Bruneian Heritage and facilitating its growth as part of Bandar Seri Begawan's smart city development plan.
Focus area: Civic and Social, Industry and Innovation, Health and Well-being

Project 1: Revitalization of Kam pong Ayer (Water Village)

- The village of Kam pong Ayer, identified as an integral part of Bandar Seri Begawan's sustainable and smart city development plan, will be redeveloped into a livable city with a sustainable environment and a diverse economy with a distinct Bruneian identity.

Project 2: Clean River Management Projects

- Overcome challenges related to waste generation, waste collection and disposal, implement an institutional framework that promotes sustainable waste management practices and restore the quality of the Brunei River.
- Strengthen regulatory and enforcement measures related to effluent discharges into the river and waste management through the latest technological interventions.

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Status of progress

Project 1

Key progress

The Revitalization of Kampong Ayer is one of the projects funded by the 11th National Development Plan and implemented by the Ministry of Home Affairs. The objective is to ensure the construction of high-quality housing units with the development of smart buildings and infrastructure as well as an integrated network of public utilities for a better standard of living for Kam pong Ayer residents. The project will involve the building of high-quality housing units, the construction of smart buildings and infrastructure, and the development of an integrated network of community amenities, while maintaining the cultural heritage and social fabric of the villages. The Revitalization of Kam pong Ayer is one of the catalyst projects under the Bandar Seri Begawan Development Master Plan [BSBDMPI. which was launched in 2011.

Now, the government has openly endorsed the project and is currently in the evaluation stage with government stakeholders.

Problems or obstacles encountered
Some challenges have been identified during the project implementation. Among these challenges are the need for strong collaboration with a variety of government stakeholders. However, these stakeholders have different policy requirements and finding the best model for implementation takes time; and there is a need for continuous dialogues and engagement with local communities (water village residents) as a vital strategy for the implementation process, which is also time consuming.

Way forward or recommendations
Currently, the government is reviewing the timeline of the project implementation process. Also, it is opening up several proposals towards economic-oriented projects that may be linked to the Revitalization of Kampong Ayer through a Public Private Partnership (PPP) to fund or act as an alternative financial model for supporting and increasing synergy towards realizing the Bandar Seri Begawan Masterplan.

Project 2
Key progress
Through different platforms on governmental environment policies, the government has been actively pursuing mitigation projects to clean the river. Such actions have successfully reduced pollution. However, continuous efforts and the development of sustainable strategies are on-going to ensure the achievement of higher success rates.

Problems or obstacles encountered
The continuous coordination and effort among a variety of government stakeholders is crucial for the implementation of the project. In addition, the community plays an important role in terms of awareness and concurrent cleaning projects. With the awareness and support from the community along with the government efforts will create a comprehensive approach to the success of the project.

Way forward or recommendations
The government will continue to implement existing strategies to mitigate river pollution with the advice of consultants. Nonetheless, it is open to assistance from consultants or technical experts, collaboration and cooperation within the ASEAN Smart Cities Network for specific issues. Particularly, in locating the source of a problem and utilizing best practices in mitigating different problems.

Chief Smart City Officer
Mr. Haji Ali Matyassin
Chairman of Bandar Seri Begawan Municipal Department
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02 Cambodia

Battambang

Area: 115km²
Population: 161,030
Population density: 1,395 / km²

Current status of the city
Battambang is the capital city of Battambang Province, located 300km northwest of Phnom Penh, and is the center of the northwest region of Cambodia. The city is situated on the Sangkae River, bringing beautiful scenery to the province. French architecture is also a notable aspect of the city.

Smart city action plan

Vision: To achieve a socially responsible, environmentall friendly, and economically successful city whilst retaining Battambang·s unique character.
Focus area: Civic and Social, Quality Environment, Built Infrastructure

Project 1: Urban Street and Public Space Management

- Through the development of the market and low-cost housing, and upgrading skills, public streets, and space design, organise street vendors and improve the infrastructure for informal settlers.

Project 2: Solid and Liquid Waste Management

- To become a green and healthy city, move away from river-based natural waste management to sewage and wastewater management systems and develop additional drain and sewage infrastructure.

Status of progress

Project 1
Battambang City has implemented some activities, including building some structures/tents for street vendors, raising public awareness about a clean Sangkae River, and building wooden/ concrete footpaths on the riverbanks.

Project 2
Battambang City has discussed with the Ministry of Public Work and Transport and ADB about projects for a wastewater treatment plant and drainage system for the west part of the Sangkae River.

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Deputy Governor of Battambang Province
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03 Cambodia

Phnom Penh

Area: 693 km²
Population: 2.8 million
Population density: 693 / km²

Current status of the city
Phnom Penh is located in southern Cambodia, where the Tonie Sap and Mekong Rivers meet. It is the capital and administrative, cultural, and financial center of the country.

While the city is noted for its beautiful streetscape developed based on the city planning from the French colonial period, high-rise buildings are also being developed due to the economic growth of the recent years.

Smart city action plan

Vision: To improve the urban environment to enhance citizen's quality of life
Focus area: Built Infrastructure, Quality Environment, Civic and Social Involvement

Project 1: 11 Sidewalk Rejuvenation Project

Objective

- To increase pedestrianisation through the rejuvenation, restoration and repurposing of the sidewalks for 11 boulevards;
- To reduce pressure on traffic flows and increase Green cover.

Goals

- Improve environment quality;
- Improve pedestrian mobility and public transportation connectivity by building up attractive and walkable paths;
- Promote public participation in designing public transport policy and a management framework via social media and a public consultation forum;
- Redesigning public spaces for greater public accessibility between people and business.

Project 2: Improving public transportation development efficiency project

Objective

- To broaden city bus capacity and empower other forms of public transportation such as river boats, AGT, taxis, ride-hailing services, etc.

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Goals

- Increase city bus service capacity to cover broader routes;
- Modernizing bus service efficiency with smart technology (cashless payment system, GPS tracking system, infrastructure, customer services, etc.);
- Execute Phnom Penh City Master Plan for Public Transportation 2035.

Status of progress

Project 1

- 3/11 important boulevard rehabilitation is ongoing;
- Trees were newly planted and/or replaced along 3 boulevards;
- Drainage systems were recently installed along the boulevards;
- Streetscape and street supporting facilities such as smart lighting by Minebea Mitsumi, bus shelters have been built;
- Real time and volume based smart traffic lighting and CCTV monitoring center (for the benefit of traffic management and security purposes];
- A study and detailed urban design for PP-Southern areas was fully completed with technical support from Paris.

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Project 2

- 11 Sidewalk rejuvenation project;
- 13 routes with 235 buses;
- Smart payment through NFC connectivity (near field communication];
- Real-time bus traffic smartphone application;
- Recognizing roles of private hailing services provider for a better connectivity and mobility by enabling traditional motor taxi and tuk tuk to connect the publics to bus station;
- First year operating the traffic control centre located at the Phnom Penh City Hall, supported by JICA;
- AGT feasibility study with Japan;
- Working on the project for "Supporting Sustainable Integrated Urban Public Transport Development (SSIUPTD] with support from Asian Development Bank, Japan for Poverty Reduction, and JICA.

Chief Smart City Officer
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Vice Governor of Phnom Penh
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04 Cambodia

Siem Reap

Area: 424.7 km²
Population: 268,380
Population density: 631.8 / km²

Current status of the city

Siem Reap is the capital city of Siem Reap Province in northwestern Cambodia. It is the tourist destination for the Angkor ruins, including Angkor Watt and Angkor Thom. There are markets in the city center surrounded by French colonial-style houses.

Smart city action plan

Vision: To improve Siem Reap as a beautiful, unique and ideal tourist destination, characterised by the harmony of Khmer history, arts, and nature.
Focus area: Civic and Social, Security, Quality Environment

Project 1: Smart Tourist Management System

- Be a liveable, smart, clean, safe and sustainable city for both local residents and tourists through the use of security enhancement systems such as CCTV and traffic sensors.

Project 2: Solid Waste and Wastewater Management

- Develop infrastructure for solid waste and wastewater management to ensure a high-quality environment.
- Capitalize on technology and data management systems which would allow for feedback loops to improve planning and implementation.

Status of progress

- Hiring private companies to collect the waste from households and public areas and transport it to landfills
- Promote the city clean program and urge people to participate in it
- Deploy security guards in public areas to ensure safety and public order
- Build a waste recycle station and to purify waste water into clean water
- There is a lack of technology, finances, technicians, etc.

Chief Smart City Officer
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Deputy Governor of Siem Reap Province
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05 Indonesia

Makassar

Area: 199.3 km²
Population: 1.77 million
Population density: 7,400 / km²

Current status of the city

Makassar, located in the center of Indonesia, is the capital of the province of South Sulawesi. It is a major city in Eastern Indonesia, which serves an important hub. Among economic growth and a population increase, the city boasts an advantageous location and a prosperous service industry.

Smart city action plan

Vision: To create Makassar as a Livable World-Class City for All
Focus area: Health and Well-being, Public Services

Project 1: Improved Healthcare

- Develop a healthcare ecosystem that connects a variety of related entities and enables the easy exchange of data to ensure that all citizens have easy and direct access to healthcar services.

Project 2: Integration of Online Tax Services

- Increase the revenue of the city through improved tax collection via an integrated e-tax system.
- Encourage citizens and businesses to file taxes, including building and land tax, local revenue tax and parking tax, through personal mobile applications and one-time submission platforms.

Status of progress

Implementation of Makassar Smart City from 2019 to 2020:

- Completing infrastructure development and big data applications, especially data and information service on health, taxes and other community service integration
- Integrating health services through the electronic system that is being built;
- Merging services through the e-tax system;
- Combining e-planning and e-budgeting;
- Implementing one data for all regional organizations;
- Preparing technology incubation programs to achieve a one-stop public service in 2020;
- Determining mayor regulations for Citizen Relations Management (CRM).

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06 Indonesia

Banyuwangi

Area: 5,782.5 km²
Population: 1.6 million
Population density: 277 / km²

Current status of the city
Located at the easternmost end of the island of Java, Banyuwangi is a port town commanding a view of Bali Strait, with lush greenery.

Smart city action plan

Vision: To develop an integrated system of government through the institutionalization of innovation and bureaucratic reform in business processes at all levels of government, accelerate the development of vocational education and basic infrastructure, as well as the creation of inclusive economic growth through tourism-based development.
Focus area: Industry and Innovation, Tourism and Well-being

Project 1: Spearing Industrial Growth through Education

- Collaborate with private entities to impart knowledge in e-com-merce and online trading to the youth through the inclusion of customised IT modules in the skills curriculum.

Project 2: Creating Inclusive Economic Growth Through Tourism-Based Development

- Harnessing the community-wide benefits of eco-tourism, develop its local tourism industry, with collaboration and support from strategic partners.
- Improve citizens' access to public amenities and information services to ensure overall development.

Status of progress

Project 1

- Encouraging industrial growth through increasing human resources in the village. Banyuwangi Regency Government encourages the human resources in the village to manage their potential in industries such as coffee, chocolate and batik commodities.

The Urban Renaissance Agency (UR)

- Through support from the Agency for Implementation and Technology Assessment, technology was obtained for improving the quality of cultivation [smart farming) and improving processing so that the quality, taste and packaging of products is better;
- Through the support of provincial government, vocational students and boarding school students were mobilized to take part in coffee, chocolate and batik business training, and vocational schools were opened for them.

Project 2

- Creating inclusive economic growth through the development of village-based tourism by ensuring good access to the tourist village, including the airport, port, and roads.al schools.

Future Plans

Developing all sectors related to the potential of each village. Issues for implementation:

- Provide cards for farmers that can be used to buy fertilizer fairly;
- Making agriculture startups;
- Provide curricula for the processing of coffee, chocolate and batik in vocational schools.

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07 Indonesia

DKI Jakarta

Area: 662.3 km²
Population: 10.1 million
Population density: 15,367 / km²

Current status of the city

Jakarta, officially the Special Capital Region of Jakarta (known as DKI), is the capital of Indonesia. It is one of the world's dominant mega city and a leading world city in Southeast Asia. It is the seat of the ASEAN secretariat. Many Japanese firms expand their businesses in Jakarta manufacturing products such as automobile, motorcycle, industrial goods, etc.

Smart city action plan

Vision: Jakarta - a city leading forward towards happy citizens
Focus area: Industry and Innovation, Built Infrastructure, Health and Well-being

Project 1: Job Creation Through Linking Research Institutes and Potential Entrepreneurs

- Create new jobs by providing platforms for innovations arising from research institutions to evolve into business ideas

Project 2: OK OTrip Integrated Transit Cashless Payment

- Integrate all Jakarta transit payment systems into one cashless system to improve urban mobility, enhance modal share and reduce travel time, while keeping travel affordable.

Status of progress

Project 2

After being implemented for about two years, the OK Otrip program is currently changing its name to Jak Lingko. Jak Lingko is a comprehensive integrated public transportation system in Jakarta. The integration covers route integration, management integration, and payment mode integration. Until August 2019, Jak Lingko has integrated 3,349 buses in Jakarta which are divided into 1,160 microbuses, 410 medium buses and 1,779 big buses. At present, the Jak Lingko program has integrated 209 bus routes in Jakarta. As of August 2019, Jak Lingko service users have reached 897 thousand passengers per day. That number increased by 500 thousand passengers per day before the program was implemented.

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08 Lao PDR

Luang Prabang

Area: 16,875 km² (Province)
Population: 97,760
Population density: -

Current status of the city

Luang Prabang is an ancient city located about 400km up the north from Vientiane, located at the confluence of the Nam Khan and Mekong River, and registered as a UNESCO World Heritage Site in 1995. The city serves as the centre of Luang Prabang Province and the northern provinces of Laos.

Smart city action plan

Vision: While maintaining as an international tourism center with the World Heritage Site in its core, aims to become a city with liveable, visitable and sustainable environment that not only serve as a regional connection but also serve all areas of the northern provinces. Service sector becomes the main economic pillar to improve quality of life. The city aims to develop Luang Prabang smart city by 2035.
Focus area: Civic and Social, Safety and Security, Quality Environment, Built infrastructure, Industry and Innovation

Project 1: Heritage Wetland Restoration for City Green Spaces and Habitats

- Restore 183 ancient wetlands and small ponds to their original values ;
- Improve the lives of citizens through;
- Improved green spaces, enhanced eco-tourism and ecological diversity, new tourism enterprises for those living around the wetlands, wastewater treatment storm water retention to prevent floods, and restoration of heritage values of the city.

Project 2: Construction of Concrete Alleyways and Footpaths

- Complete the upgrading of 44 paths within 5 years in order to encourage pedestrianisation and to reduce dependency on polluting vehicles;
- With the fact of being registered as World Heritage Site and tourism industry has been fundamental for the city's economic growth, upgrade existing footpaths and improve amenities as part of this project in order to improve visitor experience.

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Status of progress

Project 1

About 20% of the wetlands were restored as pilot project, and another 20% wetlands were initially surveyed and designed for proposing to the cooperation between Regional Center, France and Luang Prabang Province. The remaining 60% of the wetlands are underway of collecting data and finding financial supports.

Project 2

Two(2) local roads with total of 236 meters long and 5.5 meters width were upgraded from dirt roads to concrete roads, and about three(3) local roads with 2,400 meter long are expected to be constructed between 2019-2020. Footpath along the main streets of about 1,924 meters long and 1.5 meters width are constructed by brick materials.

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09 Lao PDR

Vientiane

Area: 130 km²
Population: 821,000
Population density: 6,315 / km²

Current status of the city

Vientiane is the capital of Laos, located along the Mekong River. As a center of politics, culture and economy, population and employment opportunity concentrates in this city. French cultural influence is remained in the streetscape.

Smart city action plan

Vision: Implement environmental friendly urban development by declaring the development vision based on six indicators: peace, clean, green, light, charm and prosperity.
Focus area: Health and Well-being, Quality Environment, Built infrastructure

Project 1: Establishment of Drainage System

- By incorporating drainage management systems into the city Master Plans and socio-economic development plans, effectively improve the operation and maintenance of the drainage system and reduce flooding incidents.

Project 2: Sustainable Transport Plan

- Collaborate with key stakeholders such as private transport corporations and local transport department to identify underlying transport issues and develop a strategic roadmap specifying the short-term and long-term action plans.

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10 Malaysia

Johar Bahru

Area: 220 km²
Population: 1.5 million
Population density: 6,909 / km²

Current status of the city

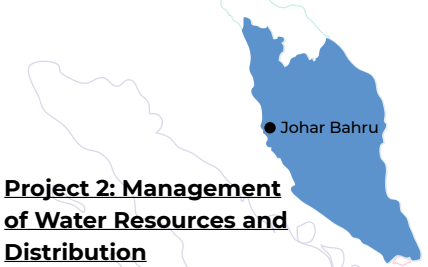
Located at the southern end of Peninsular Malaysia, Johar Bahru is the second largest city in Malaysia. With the bridge connecting Singapore and Johar Bahru, travel between the two countries is enhanced. In 2006, a large-scale development plan, known as Iskandar Malaysia was launched. With the strong economic growth of neighboring Singapore, the city achieved a rapid development and further aims to develop into an international metropolis. Due to the rapid urbanization, demand for water for domestic and industrial uses is increasing.

Smart city action plan

Vision: To develop Johar Bahru smart city into a strong and sustainable metropolis of international standing.
Focus area: Good Governance, Quality Environment

Project 1: Iskandar Malaysia Urban Observatory IIMUO) Tool for Decision Making, Stocktaking, and Measurement

- Improve planning approval process via informed decision-making and develop a Centralised Data Center to collate, update, analyse, manage and disseminate data.



Project 2: Management of Water Resources and Distribution

- Improve water sustainability practices to increase water reserves by 20% all year round and to identify new water sources through innovation and technology.

Status of progress

Project 1

- In its final year of framework development together with United Nations Development Programme (UNDP) under the Country Programme Action Plan (CPAPI);
- One of the 2019 key deliverables: Establishment of a co-ownership between IRDA and key stakeholders on the IMUO platform and data sharing;
- IRDA plans to localise the Sustainable Development Goals (SDGs)for Iskandar Malaysia; target to complete by end 2019;
- Phase 1 of IMUO target to be completed by 2022.
- Issues for implementation:
  - Reliable data from 3rd party sources that can complement official data sources.
  - Policies that facilitate greater data sharing between government agencies.

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Project 2

- IRDA is collaborating with the Federal water regulatory body to develop a Smart Water Grid Management platform/tool to be piloted in an identified area within Iskandar Malaysia for 2019;
- This platform/tool will cover aspects of the water processing, distribution, water assets, management and maintenance data from multiple sub-agencies and GLCs in a holistic and streamlined manner;
- Concurrently, IRDA is also working with the water regulatory body to formulate regulations to enable the sale and use of treated waste-water for non-potable use to supplement the ever-increasing water demand.

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11 Malaysia

Kuala Lumpur

Area: 243 km²
Population: 1.8 million(projected 2018)
Population density: 7,377 / km²

Current status of the city

Kuala Lumpur, the capital of Malaysia, is located in a valley surounded by hilly terrain in the southwestern part of Malay Peninsula. The population is large, and it has the highest population density in country. Despite the relocation of the federal government administration to Putrajaya, the city still remains the center of Malaysia's economy. Having developed transportation infrastructure, including expressways, railways and a monorail, as well as large-scale shopping malls, it is one of the leading cities in Southeast Asia, where many high-rise buildings cluster amidst the rich greenery.

Smart city action plan

Vision: Kuala Lumpur envisions becoming a world class sustainable city by 2020
Focus area: Quality Environment, Social Equity, Economic Prosperity, Built Infrastructure, and Industry & Innovation

Project 1: G-Asset

- G-Asset is a one-stop platform for geospatial maps packed with useful visualized data to help DBKL in making and executing day-to-day operational decisions. Only accessible to internal DBKL users,

a rich set of GIS map data is available, and users can also share and update information online. Using the concept of an observatory, this project will be expanded to cater to a wider audience.

Project 2: Kuala Lumpur Integrated Submission System (KLIS)

- Kuala Lumpur Integrated Submission System is an online submission processing platform for development project applications in DBKL. It is only for small-scale residential applications in Kuala Lumpur that involve the approval of a Development Order, Building Plan and Engineering Plan. The system has been in use since 15 January 2019 and its online features include submission, processing, payment, digital signature, self-monitoring as well as being mobile-friendly. The system cut down the waiting time and manpower necessary, and helps in the archiving of documents.

Project 3: GoKL Journey Planner

- GoKL Journey Planner, an Intelligent Transport System (ITS). is a cloud-based solution offering to both DBKL and Commuters (including tourists) almost real-time tracking of the services and movement of GOKL buses on their routes. The GoKL Journey Planner application will make it easier for the public to get real-time information about bus schedules and movements. The real-time information includes arrival and departure times as well as bus status information.

Status of progress

Smart cities are seen as a new approach in urban management, and a development to make Kuala Lumpur more sustainable and liveable. Technological advancement and the use of information technology (IT) applications make a smart city more practical and convenient for the urban population and city managers. Current projects such as G-Asset are the beginning of a bigger platform for managing and diseminating urban data through the KL Urban Observatory, which is going to be our final output. Some of the challenges in implementing the projects are: inconsistent data; lack of reliable data and readiness for development, planning and investment; unreliable data being used for informed decision making in planning approvals by authorities and agencies; and the integration of systems with the existing systems of external agencies.

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12 Malaysia

Kata Kinabalu

Area: 366.03 km²
Population: 452,940
Population density: 1,290 / km²

Current status of the city
Kota Kinabalu, the state capital of Sabah, Malaysia is a trading port located at the northeast end of Borneo facing the South China Sea. Land filling started in the early 1970s which further became office and residential districts with high-rise buildings. With the progress of urbanization and economic growth, generation of waste is increasing.

Smart city action plan

Vision: Transforming Kola Kinabalu into a Clean, Green and Liveable City
Focus area: Built Infrastructure, Quality Environment

Project 1: Smart New Township

- To create smart, green and sustainable townships in KK City through the proposed study on "smart New Township Project" which could draw an action plan to resettle the squatters/transition houses and redevelop the government lands into clean, green and smart township that could attract more investors and tourists to Sabah while rejuvenate the study area as sustainable and liveable township in KK City.

Project 2: Smart Water Management

- To prepare the action plan on "Smart Water Management Project" in KK City as to reduce the Non-Revenue-Water (NRW), decrease the water losses and increase system efficiency through the proposed pilot study.

Status of progress

- Illegal squatters, unplanned housing construction and poor sewerage system;
- High level of Non-Revenue-Water (NRW) due to leakages, illegal and unregistered water connections, faulty bulk and service connection meters;

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13 Malaysia

Kuching

Area: 4,195 km²
Population: 684,900
Population density: 163.27 / km²

Current status of the city
Kuching is the capital city of the state of Sarawak in Malaysia, located in the northwestern part of the island of Borneo, at the mouth of Sarawak River, facing the South China Sea. The city, a major part of the South China Sea route since ancient times, developed as the capital of Sarawak. Colonial and Malay architecture still remain as part of the streetscape.

Smart city action plan

Vision: Kuching envisions the improvement of the quality of life and achievement of smart city status through digital transformation and the Sarawak Digital Economy Strategy 2018-2022 (Please refer to https:/ /www.sma.gov. my/page-0-0-16-Smart-City. html)
Focus area: Mobility, Urban Resilience

Project 1: Smart Mobility -Integrated Smart Traffic Light System

- Ease traffic congestion in the city through smart management of the traffic flow using digital technology;
- Plan to expand the project to cover all major urban roads and signalized junctions within the city to coordinate traffic flow with better synchronised traffic lights and provide real-time traffic information.

Project 2: Integrated Flood Management and Response System

- Effectively alert the response team or the Disaster Committee to flooding events to ensure safety of people and property;
- Efficient monitoring and response to flash floods and waterlogging in flood prone areas.

Status of progress

Project 1

- Efforts currently underway - Phase 1 of Smart Mobility is expected to start in September 2019 and last until August 2020, covering 42 traffic junctions;
- Efforts to be made in the future - Future plan is to cover another 100 plus traffic junctions covering greater Kuching City by year 2021;
- Issues or concerns for the project - No implementation issues at the moment.

Project 2

- Efforts currently underway - Currently the project is still in the proposal stage and the implementation of the project depends on the availability of funds;
- Efforts to be made in the future - For the proposed Phase 1 implementation, the department will focus on Kuching City areas and the project coverage area can be expanded to other cities/towns, i.e. Miri and Sibu, in the future, subject to funding availability;
- Issues or concerns for the effort - Selection of strategic locations for installation of flood detection equipment, subject to relevant authority approval.

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14 Myanmar

Nay Pyi Taw

Area: 7,054.37 km²
Population: 924,608
Population density: 131 / km²

Current status of the city

Nay Pyi Taw, the capital of Myanmar which was relocated from Yangon in 2006, is a Union Territory under the direct administration of the President. Nay Pyi Taw is the seat of the government of Myanmar where all the government functions including the Union Parliament, the Presidential Palace and the headquarters of government ministries are systematically developed within the vast area of more than 7,000 km² site. There are residential, commercial, recreation zones as well as international airport.

Smart city action plan

Vision: To be a climate resilient city; a green and liveable city that is environmentally sustainable; the centre of knowledge hub; an international aviation transit, cargo and logistics hub serving the global market; and a city that provides core infrastructure and high quality of life to its citizens as a role model in Myanmar.
Focus area: Housing and Social Infrastructure, Quality Environment, Built infrastructure

Project 1: Affordable Housing and Low-cost Housing Project

- Construct housings including medium-rise low-cost affordable housing for retired government employees with infrastructure amenities to support new affordable housing projects.

Project 2: International Comprehensive University

- Construct on a 250 acre-wide land near the Diplomatic Zone where the Smart City Initiative Project is partially implemented, the first International University in Myanmar including an Engineering School, Business School, Medical School, and Art and Design School, which can serve as an Education Hub.

Status of progress

76 residential buildings for various ranks of government employees are being developed with government budget through tendering by local companies. This project will enable to accommodate approximately 2600 government employees of various ranks. As for the built infrastructure, basic infrastructures such as roads, water pipe lines, and electricity will also be developed in this project.

Future Plans

- Affordable housing for retired government employees;
- Smart Street Lighting System;
- Urban Utility Water Supply Master Plan for NPT (Paunglaung & Sinthe);
- Water and Sanitation (Smart Metering System);
- e-Bus system (Zero Carbon Emission City);
- Transportation Hub (Aviation Hub for transit and Cargo)

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The Urban Renaissance Agency (UR)

15 Myanmar

Mandalay

Area: 285 km²
Population: 1.23 million
Population density: 4,300 / km²

Current status of the city

Mandalay, located roughly at the center of Myanmar, is the second largest city of Myanmar, following Yangon. It is a historic city built in a grid pattern on the east bank of the Irrawaddy River, with Mandalay Hill standing in the background. The city has flourished as the royal capital of the last Dynasty of Burma/Myanmar, making it a historical site with the royal palace and many pagodas and monasteries . Currently the city also serves as a trading hub with China.

Smart city action plan

Vision: Mandalay aspires to be a city with safe and smooth mobility.
Focus area: Traffic Management, Road Safety, Public Transport, Parking and Walkway Management, Good Management of Solid Waste and Waste Water, Water Supply, and Public Transportation

Project 1: Traffic Congestion Management

- Establish reliable and up-to-date traffic data, and strategic management of road conditions by road infrastructures such as traffic lights, guard rails and road signs to address the traffic congestion in Mandalay, thereby improving road safety.

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Project 2: Solid Waste and Waste Water Treatment

- Ensure quality water supply through good solid waste and waste water management.

Status of progress

Street light control center for energy management, water and air quality monitoring, water meter AMR, public mobility, motorcycle issue, establishing new address system and ZIP code.

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16 Myanmar

Yangon

Area: 1043.57 km²
Population: 5.14 million
Population density: 16,000 / km²

Current status of the city

Yangon Region, the largest economic center of Myanmar, has a population of about 7.4 million. Applying an annual growth rate of 2.6%, the population will become a mega city in 2030. It is the most populous city in Myanmar and the center of commerce. The area of the city is 9178.96 sq. km but only 1043.57 sq. km of the Yangon area is administered by the YCDC. Currently, the Yangon Region consists of 44 townships, 33 of which are in the YCDC service area. The current rapid urbanization is putting more pressure on the existing old infrastructure in Yangon City and concerns about the deterioration of its urban environment are growing. To manage such a large city and accommodate the huge population properly and actively, gradual urban development with appropriate infrastructure is required through government initiatives with good coordination between positive private activities and citizens' understanding and cooperation. Yangon faces problems such as traffic congestion, natural disasters, and public services arising from its rapid urbanization.

Smart city action plan

Vision: To create a Smart City while organizing the transparent and easy flow of information to the public.
Focus area: Streetscape Improvement, Zoning Regulations, Disaster Management

Project 1: Conservation of the Yangon streetscape, improvement in the CBD

- Flood protection for the CBD has been prioritized. Flood resilience and heritage preservation in urban development will be implemented from mid 2019 through 2021. To produce a digital map of Yangon and create the Yangon zoning land use plan map, we are coordinating with Yangon Heritage Trust for the conservation of Yangon Heritage and digital mapping of the Southwestern part of the Yangon Region is planned.

The Urban Renaissance Agency (UR)

On the other side, streetscape improvement in the CBD is one of the infrastructure development projects with JICA and NGOs. As a result, we can provide not only streetscape improvements but also public services for safety, comfort, and linkage with Yangon's heritage and people's activities.

Project 2: Building a geodatabase system

- Check and link with existing land and building information databases and feature data (eg. Footprint, land parcels) for the 1 :5,000 digital topographic map of Yangon. For this purpose, townships in the YCDC area were selected as pilot projects. The outcomes from this project are:
  - GIS databases including matched results of land and building information;
  - A web-based Geospatial Information System for Public Services in the Yangon Region.

Status of progress

- The alleyways became a target of social experimentation when the Alley Garden Project was implemented by Doh Eain (NGO) together with the YCDC. Among 10 pilot areas downtown, 8 were chosen for the alley garden project, involving multiple stakeholders including residents, the ward and township officers, parliamentary members, and representatives from the departments of the YCDC;
- -Formulating a GIS system [1 :5,000 for YCDC area (1,500km2l/ 1 :10,000 in the south suburbs of the Yangon area (1, 100km2)] to sustain the construction of urban development through the establishment of data at the Continuously Operating Reference Stations (CORS) in the Yangon Area;
- Due to the large migration and extensive development in a limited area, zoning regulations and a verification system are needed for the whole Yangon Area. To achieve-sustainability, proper zoning regulation is being implemented as a pilot program in the Yan kin and Hlaing townships. The other townships' zoning regulations are an ongoing process;
- Analyzing the actual situation (in particular for Yangon) regarding the information base for disasters and disaster risk management as well as awareness, preparedness and capacity building on the urban level and below [down to the household Levell, about 450 households from 4 selected townships were surveyed as a pilot project by the project of Multiple Risks Management during extreme events in Yangon.

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The Urban Renaissance Agency (UR)

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17 Philippines

Cebu City

Area: 315 km²
Population: 923,000
Population density: 2,930 / km²

Current status of the city
Cebu City is the center of culture and trade of the mid-southern area of the Philippines. In recent years, rapid urbanization has been a phenomenon in the city, making it the second most populous metropolis in the country, next to Metro Manila. With its rich history, being the oldest city in the country, Cebu City is a popular tourist destination. Hotels and resorts are growing in number as well as commercial buildings and office spaces to cater to both tourists and investors coming into the city.

Smart city action plan

Vision: Cebu City aims to improve urban growth through the use of efficient technologies in the realms of urban mobility, personal security and safety. Public transport and mobility will be upgraded through the Integrated Intermodal Transport System (IITS), the first phase of which is the Cebu Bus Rapid Transit (BRT) project. In addition, a modern, centralized command center will be established to focus on security, traffic, and disaster response. Cebu City envisions an improved and inclusive mobility by 2025 to serve more citizens with greater efficiency, effectiveness, speed, and comfort through affordable public transportation.
Focus area: Personal Safety and Security, Mobility

The Urban Renaissance Agency (UR)

Project 1: Integrated Intermodal Transport System (IITS)

- In coordination with the National Government, through the Department of Transportation [DOTr), the IITS is envisioned to address urban mobility through effective and modern mass transport systems including monorail, point-to-point buses, light rail transit, and the bus rapid transit (BRT);
- First phase of the IITS is the implementation of the Cebu BRT project which will connect the South Road Properties to the Cebu IT Park, and other major roads in Cebu City.

Project 2: Cebu City Command Center

- Centralized surveillance and control systems to focus on security and safety, traffic management, and disaster response;
- Advanced technologies to be put in place that will include digitalized systems, artificial intellegence and analytics.

Status of progress

Project 1

The BRT Project, as the first phase of the IITS, is already in its implementation stage. Funds from the World Bank and the National Government have been secured. One concern for its full implementation is the road right of way acquisition with several properties to be affected in the BRT alignment. The other systems in the IITS are still in various stages of studies.

Project 2

While Cebu City already has its command center, it' s still lacking in terms of facilities and systems. There is a need to upgrade and digitize these systems and integrate analytics. Some project is still in its study phase.

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The Urban Renaissance Agency (UR)

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18 Philippines

Davao City

Area: 2,444 km²
Population: 1.7 million
Population density: 699 / km²

Current status of the city

Davao City is the third-most populous metropolitan area of the Philippines, following Metro Manila and Metro Cebu. It is a harbor city facing the Davao Gulf, and the center for politics, economy, and culture for the southern area of the country. With the pleasant weather without rainy or dry seasons, the city was recognized as the most livable city in the Philippines. Advanced efforts on public services are taken ahead of other cities in the Philippines.

Smart city action plan

Vision: To strengthen its safety and security measures, enhance public service delivery, and bolster domestic and international linkages and relations to drive economic growth and achieve sustainable development.
Focus area: Security ensuring public safety, build infrastructure for smart mobility

Project 1: Converged Command and Control

- Develop technological solutions that enable efficient inter-agency collaboration for improved public safety and planning using intelligent surveillance, the Public Safety and Security Command Center (PSSCC), and upgraded communication capabilities.

Project 2: Intelligent Transportation and Traffic Systems with Security

- Install sensors, equipment, and infrastructure that support the operation of an intelligent traffic control system and public safety initiatives;
- Integrate solutions developed for improved traffic and transport management with other security management systems.

Status of progress

The High Priority Bus System, an inclusion in the Intelligent Transport and Traffic Systems with Security Project, has already been piloted in the Southern part of Davao City since 2018. This project is funded by the Asian Development Bank (ADB) and will be initially implemented across the entire city starting this year, 2019. Meanwhile, the phase development of the Converged Command and Control project is underway, and its feasibility study is in the finalization stage. This project is financially supported by the United States Trade and Development Agency (USTDA). Both projects are included in the catalogue of the Davao City Government's Big Ticket Projects.

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19 Philippines

Manila

Area: 38.55 km²
Population: 1.78 million
Population density: 42.8 / km²

Current status of the city

Manila is the capital of the Philippines, located in the northern Philippines, on the western side of Luzon Island. It is the core city of Metro Manila (metropolitan area) which achieved rapid growth as a center for politics, economy, culture, transportation, information, and power. The city's urbanization is dramatically developing towards the program, BAGONG MAYNILA (New Manila).

Smart city action plan

Vision: BAGONG MAYNILA (New Manila) at the Palm of your Hands.
Focus area:

- Public Safety and Order, Public and Social Services, Environment and Disaster Response Capability;
- Technology enhancement of the e-Finance systems;
- Integration of silo systems

Project 1: New Command Center

- Development of a new Command Center to be more responsive to concerns of the residents and visitors.
- Connect traffic/peace and order/disaster monitoring with a command/administration and supervision/response management center.

Project 2: e-Finance Systems

- Improving and rehabiliting the revenue collection system applications and computing equipment;
- Restoration of On-line Payment Systems and Geographical Information System (GIS).

Project 3: Integration of Systems into One Mobile Application

- Integrate e-Finance, on-line payment and GIS systems into the new Command Center into one mobile app using an integrated cloud-based system.

Status of progress

Current assessment of computing resources

- Improvement of system application and computing equipment for e-finance is in process, simultaneously with the restoration of the On-line Payments and GIS. The systems are being readied for integration to maximize use;
- The development of the new command centre is in initial assessment and planning. We are aiming to have a blueprint for the integration command center and e-finance through the use of one mobile application;
- Restoration of e-Hospital and e-Education systems are in line with City projects as well as future additions for integration.

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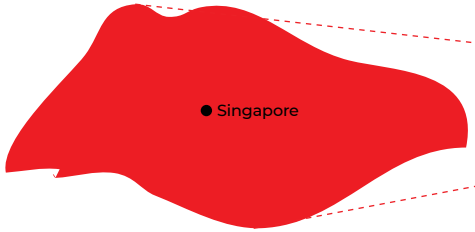
20 Singapore



Singapore

Area: 719.9 km²
Population: 5.61 million
Population density: 7,796 / km²

Current status of the city

Singapore is a city-state located on the southern tip of the Malay Peninsula, consisting of a main island and 62 other islets. The main island has grown through extensive land reclamation, and the city is highly urbanized. Singapore is a transportation hub, with the city lying along the Strait of Malacca, which is vitally important for marine transportation, and including Changi Airport, an important hub airport. It is one of the largest industrial nations in Southeast Asia, and is an established financial center.

Smart city action plan

Vision: To transform Singapore through technology.
Focus area: Digital Government, Digital Economy, Digital Society

Project 1: E-Payments

- Provide seamless, secure, and integrated e-payment platforms, options for cashless payments, and integrating e-payments into business processes from end to end.

Project 2: National Digital Identity

- Establish the National Digital Identity (NOi) as a nationally available means for individuals to prove their legal identity in the digital realm, to be used for seamless and secure transactions in both the public and private sector;
- - Planned to be operational in 2020.

The Urban Renaissance Agency (UR)

Status of progress

Our Smart Nation development plans are underway and we are on target to achieve our milestones for National Digital Identity and e-payments, amongst other projects.

Project 1

In the first half of 2019, PayNow processesd around 28 million transactions worth about $4.6 billion. This is four times the number of transactions from the same period last year, and marks a 500% increase in the amount transacted. Recently, the Singapore Government announced a bulk tender for all public agencies to have a coordinated rollout of PayNow la peer-to-peer fund transfer service). In Singapore's Digital Government Blueprint, we have also established the target of of/erring e-payment options for all government services by 2023.

Project 2

The Singapore Government released the Sing Pass Mobile app in October 2018. Since then, it has achieved more than 500,000 downloads, and will be a key platform for Singaporeans to securely access digital government and private sector services nationally. MyInfo, Singapore's digital vault for government verified data has been integrated into many private sector services, including banks and regional digital champions like Carousell and Grab. Singapore is interested in how we can cross-recognize our digital identity with international partners.

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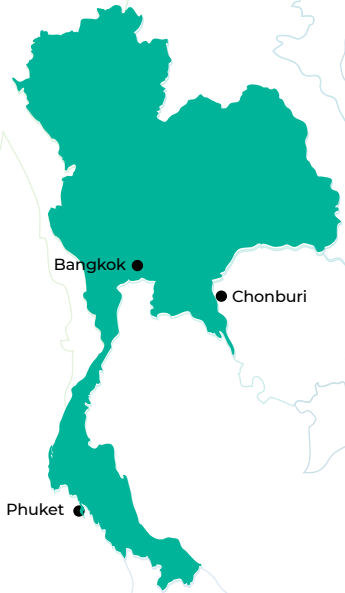
The Urban Renaissance Agency (UR)

21 Thailand

Bangkok

Area: 1,568.7 km²
Population: 8.28 million
Population density: 5,300 / km²



Current status of the city

Bangkok is the capital of Thailand located at the Chao Phraya River delta. It is the center for ASEAN economy, with world's largest number of inbound passengers. Elevated railways and subways are available, and railway connection to the international airport also opened. Further development is being made on the railway lines to relieve traffic congestion.

Smart city action plan

Vision: To be a Visitor-Friendly International Community with a New Central District filled with various attractions and infrastructures.
Focus area: Built infrastructure, Quality Environment, Industry and Innovation

Project 1: Transport Hub Development at Bang Sue Area

- Function the Bang Sue Central Railway as the hub of the new Commuter Rail System that provides new lines serving the areas near the city centre, while serving as the main stop for the High-Speed Rail;
- Overcome the existing infrastructural pressure on the existing terminal while simultaneously reducing commuting time.

Project 2: Smart City Plan of Pahonyothin

- Become the ideal place for visitors with its strong international community, and the New Central District full of attractions;
- Provide various transport systems such as pedestrianization, cycling, bus and metro coined as the Gateway to City of Angels.

Status of progress

Ministry of Transport of Thailand and JICA are co-developing the Master Plan of Bang Sue Smart City. It will be completed by September.

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22 Thailand

Chonburi

Area: 43 km²
Population: 215,000
Population density: 5,000 / km²

Current status of the city

Chonburi is the capital of Chonburi Province, located around 60km southeast of Bangkok, along the Gulf of Thailand. It is part of the Eastern Economic Corridor, in which large-scale industrial parks have been developed in recent years. Popular resort towns such as Pattaya Beach are located in the southern part of the province.

Smart city action plan

Vision: To be a self-reliant, energy efficient city with renewable energy sources and sustainable environmental management
Focus area: Built infrastructure, Quality Environment, Industry and Innovation, Health and Well-being

Project 1: Smart Grid Project

- Improve the management of electrical networks, generation systems, transmission systems and power distribution systems, with a systematic energy management and energy storage structure.

Project 2: Waste to Energy plant

- Address the waste treatment and management issues arising from the waste generated in Chonburi, and to source renewable energy integration and regional smart micro-grids, which are aligned with the relevant National Plans on building infrastructure developments in Thailand.

Status of progress

Amata City has progressively moved forward in both the SMART Grid and the Waste to Energy plant.

Project 1
For the SMART Grid project, detailed data collection was done during Jan-April 2019 and the process to prepare a proposal to participate in the SANDBOX Project with related regulatory agencies is ongoing.

Project 2
The implementation of the Waste to Energy plant, starting with improving efficiency of sorting recycled waste from solid waste, the total amount of solid waste in the waste segregation plant improved from 10% to 15%.
The improvement of the waste management process, which changed from landfills to refuse derived fuel (RDF) and combustion in cement plants is proceeding.

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The Urban Renaissance Agency (UR)

Back

23 Thailand

Phuket

Area: 543 km²
Population: 400,000
Population density: 719 / km²

Current status of the city

Phuket is the largest island in Thailand in the Andaman Sea, and is one of the world's most popular resorts. In the old town area known as the Phuket Town, retro streetscape of Sino-Portuguese style townhouses remain. On the other hand, in the most popular Patong Beach area, various new facilities for entertainment and shopping unique to Thailand are being opened one after another.

Smart city action plan

Vision: With tourism accounting for 97% of its Gross Domestic Product, Phuket's smart city vision is to achieve sustainability in its tourism development
Focus area: Civic and social aspects of tourism, Industry and innovation to promote trade and commerce activities, Security.

Project 1: City Data Platform

- Build a City Data Platform that allows for better understanding of residents and tourists in Phuket using real-time big data from sources such as free-WiFi and CCTVs;
- Provide valuable insights to businesses and start-ups in their analysis.

Project 2: Phuket Eagle Eyes - Safe City based on Big Data Harvesting and Analytics CCTV Safe City

- With the vision of making Phuket a safe city for all, maximise the coverage area of CCTVs by inviting private firms and corporations to share their CCTV generated data with the government.

Status of progress

Awareness and understanding about smart city and sustainability are initial key success factors. We are building awareness and understanding of individual city all over the country by developing and disemminating tutorials, guidelines, video clips, and documents. A number of cities are selected and be couched by staffs from Thailand smart city office to collect/develop best practices. Sustainable smart city implementation plan is the expected outcome. Several pilot projects have been launched. The pilots involve CCTV, data platform, tourism and health care.

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24 Viet Nam

Da Nang

Area: 1,285 km²
Population: 1.0 million
Population density: 814 / km²

Current status of the city

Located around 750km south from Hanoi and 960km north from Ho Chi Minh City, Da Nang is a largest city in the central part of Viet Nam surrounded by mountains on the west side and facing South China Sea on the east side. It is one of Viet Nam's most important port cities and large-scale development is progressed along the coast.
It is the east end of East-West Economic Corridor which is connected to Laos, Thailand and Myanmar. There are also National Route 1A which runs in north-south direction connecting Hanoi and Ho Chi Minh City, and National Route 14B which runs the Central Highlands in east-west direction.

Smart city action plan

Vision: Da Nang envisions itself to be a smart, liveable, and sustainable city by 2030 while ensuring economic growth and competitiveness.
Focus area: Smart Governance, Smart Living, Smart Mobility, Smart Environment, Smart Citizen, Smart Economy

Project 1: Intelligent Operation Center (IOC)

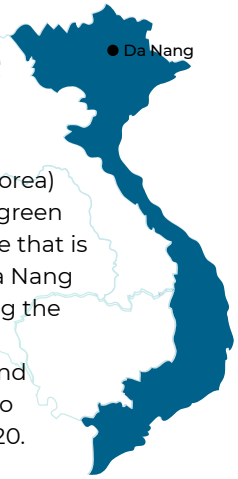
- Building a center to collect urban information and data and display it in real time on a big screen; store and analyze to support timely decision making; coordinate all forces to handle and respond issues and incidents in the city, especially in emergency situations.

Project 2: Upgrading Da Nang Data Center

- Upgrading and expanding cloud computing solutions for Da Nang Data Center, building disaster recovery sites (DR Sites), using High Performance Computing (HPC) systems for virtual reality applications and simulations, ensuring essential storage and calculating infrastructures for smart city applications and building security solutions to improve information security and safety.

Status of progress

The two projects has been approved for investment from the city budget. Besides, Da Nang city has been promoting invesment from KOICA (Korea) for building the center of green and smart urban resilience that is integratd with the IOC. Da Nang city is currently completing the investment documents (feasibility study, design and construction, ...) in order to implement projects in 2020.



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25 Viet Nam

Hanoi

Area: 3,359 km²
Population: 7.6 million
Population density: 2,280 / km²

Current status of the city

Hanoi, the capital of Viet Nam, is located in the northern region of the country and is the center for politics and culture. The city lies on the right bank of the Red River, having a distinctive sense of colorful but at the same time peaceful streetscape with boulevards, lemon-yellow French architecture, lake with quiet water surface, etc. In order to address with the rapid urbanization, various MRT lines were planned and are currently under construction.

Smart city action plan

Vision: Hanoi aspires to be a green, culturally-rich, civil and modern city with sustainable development to create a better life for the people by 2030.
Focus area: Intelligent Operations Centre (IOC). Smart Transportation, Smart Travel

Project 1: Intelligent Operations Centre (IOC)

- Establish an Intelligent Operations Centre to enable Hanoi to manage information and resources across all sectors and aid leaders in decision-making and responding to emergencies;
- Correspond to the urgent need to have a centralized management system for monitoring and controlling signals and sensors, and for capturing visual information to effectively coordinate transport management.

Project 2: Development of Intelligent Transportation

- Reduce congestion and improve logistical efficiency with a clear strategic focus to provide access to better-managed public transport;
- Use technology platforms to generate and collect traffic data to improve transport services and communication with the people.

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26 Viet Nam

Ho Chi Minh City

Area: 2,095.6 km²
Population: 8.2 million
Population density: 3,924 / km²

Current status of the city

Ho Chi Minh City is located in the southern part of Viet Nam. The city has flourished as the financial center from the old times, and leads the economy by covering nearly half the GDP of the country. In addition to the color of French colonial period and Asian destinctive style remained in its streetscape, clusters of high-rise buildings built through the economic growth are added to create the city area. Along with the urbanization, various Metro lines were planned, and are under construction.

Smart city action plan

Vision: Ho Chi Minh City's vision by 2025 is to attain rapid and sustainable economic development through optimal resource utilization and citizen-centric governance.
Focus area: Electronic Government, Transport, Flood Control, Environment, Health and Food Securit, Social Order and Security, Urban Upgrade

Project 1: Intelligent Operations Centre (IOC)

- Integrate daily information and resources across all sectors in Ho Chi Minh City;
- Collect and integrate data and information from CCTV, sensors, and operation centres in all government sectors;
- Serve as the 'brain' of the Smart City

Project 2: Integrated and Unified Emergency Response Centre

- Develop an integrated and unified emergency response centre for security and public order issues, fire-fighting and prevention, as well as medical services by 2020;
- Introduce upgraded features such as automatic location and number identification, Computer Aided Design/Geographic Information Systems for resource management and operation, integrated video surveillance systems and IP Call Centre management software.

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SMART CITY
Thailand

Definition

"Smart City" makes use of technology and innovation to enhance its capacity, managerial efficiency and resource utilization. Smart city decreases unnecessary spending of its residents, emphasizes good design and participation from the business sector. The key urban development concept is to make the city more robust, with the development goal of sustainably improving the quality of life of the urban residents

Did you know?

In Thai language, "Smart City" sounds like "Genius City," which can be misleading, so we often define smart city as a Livable City.

2 Types of Smart City

Livable City

Livable City Is an existing city with long-term residents. To be developed into Smart Livable City, the existing city needs to incorporate and integrate technology and innovation as needed by its residents which are varied by its specific contexts, such as infrastructure, social services, housing, recreational areas, and commercial resources, including the design of urban space contributing to rich existing culture, tradition and identity of the city as a whole.

Did you know?

Many Thai cities are highly ranked in many global cultural and livable indexes. So, it's important to recognize and take advantage of the established sociocultural resources of those many cities.

New City

New City is a newly designated urban area to be developed into Smart New City, like the existing city, with the use of technology and innovation as needed by its specific contexts.

Did you know?

To become smart cities, cities must be "Smart Environment Plus," meaning that the required dimension is the Smart Environment; as for the other 6 dimensions, each city can choose what fit its need.

7 Smarts

7 Dimensions of Thailand Smart City

Smart Environment

Minimizing the negative impact of urban living on the environment and climate change through the systematic use of technology, such as, in water resource management, climate monitoring, waste management and disaster watch, including the public participation in the conservation of the natural resources.

Smart Economy

Using digital technology to effectively increase valueaddedness in the economic system as well as resource management, such as smart agro-city and smart tourism city.

Smart Mobility

Emphasizing the development of traffic and transportation systems in driving the country forward. By enhancing the connectedness of a variety of traffic and transportation systems, urban residents benefit from the enhanced convenience, safety, and by becoming friendlier to the environment.

Smart Energy

Spearheading effective energy management and building a fine balance between the producing and usage of energy to enhance energy security and decrease reliance on the traditional channels of energy distribution

Smart People

Improving knowledge base, skill sets, and environment conducive to the life-long learning of urban residents in order to decrease social and economic inequality and provide new opportunities for creativity, innovation and public participation.

Smart Living

Maximizing health, safety, and the quality of life of urban residents through universal design.

Smart Governance

Developing the system of public services to benefit the residents whose access to data and trust in the accountability of such system are key to their livelihood and wellbeing. The system shall be consistently improved through applied service innovation.

5 Steps to Create

Smart Cities

1. **Identifying** geographical boundary, Smart City type, Smart City visions and goals;
2. **Formulating** infrastructural development and investment plan for both digital and basic infrastructure such as transportation, energy, and public services;
3. **Designing** a data storing and management platform (i.e., City Data Platform) as well as cybersecurity for the city and its residents;
4. **Building** urban systems, activities and projects in accordance with the proposed type of Smart City, encompassing both the mandatory and other services as appropriate; and,
5. **Engineering** a management model and process of public participation incubation for a sustainable operation.

Did you know?

These are basic steps that have proven to be the Minimal Viable Product (MVP) – an essential and unreducible elements – that make a city sustainably smart.

Citizen Participation is Key

A city is for citizens. Hence, the goal of creating a smart city is to meet citizen's demand, both in the present and moving forward. To design a city for citizens, a sound vision for the city must come from the intrinsic needs of those who will be living in it. Smart city, therefore, is only technology-driven in so far as it is first citizen-centric. Smart City Thailand project considers citizen participation as the most vital element of smart city promotion

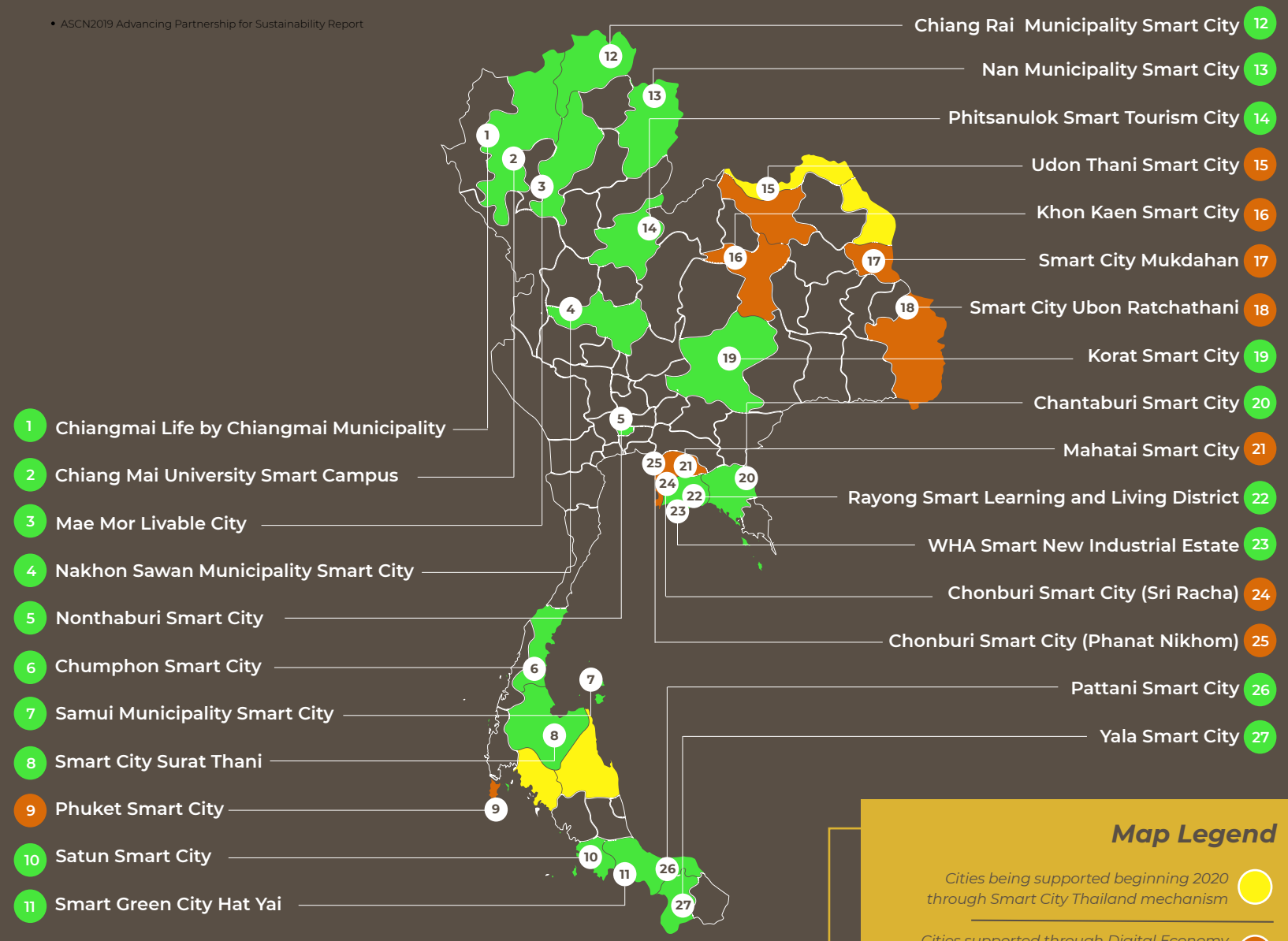
Did you know?

We use agile and appraisal research techniques such as design thinking, smart city business model canvas to understand the needs of the citizens.

Back

27 Candidate Smart Cities

At Digital Thailand Big Bang 2019 on October 31, 2019, twenty-seven Thai cities, municipalities, areas and industrial estates proclaimed their readiness to become Thailand's first batch of smart cities. Over the past months, these cities have thoroughly developed smart city proposals with the public and private sectors, residents and local academicinstitutions. These proposals encompass all five key requirements: Visions, infrastructural plans, city data platform plan, smart city solution plans and sustainable business model. These cities are set to benefit from multiple smart city measures to embark on a vision to show that, by appropriately utilizing the power of technology, cities can be livable, efficient, and sustainable.



Smart City Thailand Logo

In March 2019, Digital Economy Promotion Agency, with the Office of Transport and Traffic Policy Plan (OTTP) and Energy Policy and Planning Office (EPPO) co-organized Thailand Smart City Logo Design Competition. The winning designs are used to represent both the Smart Livable City and Smart New City, Development Plan for the 7 Smarts, and to build both the public perception and participation of Thailand Smart City. There were 61 entries to the Competition.

Bamboo: Represents environmental friendliness and rapid development

Rice: Represents ASEAN connectivity and ASEAN Smart City collaboration

High-Rise Buildings: Represent contemporary architecture and New City development

Gable Roof of Traditional Thai Architecture: Represent contemporary architecture and New City development

Arrow: Represents the forward movement of the country

The words “Thailand” and “Smart” use the form of the logo to present design consistency.

Logos

Colors

Acknowledgements

Smart City Thailand Office acknowledges the support from the following individuals and companies who contributed immensely to the success of both ASCN events in June and August 2020. Without their participation, they would not have been such a great success in moving forward with the shared goal of creating smart and sustainable cities

Speakers

> *ASEAN Smart Cities Network Conference on Smart and Sustainable Cities*
> *7th June 2019*
> *GH203, BITEC Bangkok, Thailand*

Topic: Smart and Sustainable City in the 21st Century: Towards Sustainable Development Goals (SDGs)
- Renaud Meyer, UNDP
- Hirotoshi Ito, JETRO
- Keisuke Sasaki, METI
- Kim Chang Soo, Korean Government
- Dr. Konstantin Matthies, AlphaBeta

Topic: International Cooperation and Assistance in Smart City Development in ASEAN
- Brandon Megorden, USTDA
- Kim Tae Hoon, New Southern Policy Committee (Korea)
- Antonio Ressano-Garcia, Asian Development Bank (ADB)
- Seok-yong Yoon, Asian Development Bank (ADB)
- Ashley Park, Seoul Housing and Communities Corporation
- Lena Ng, AMATA

Topic: Data Privacy and Smart City
- Lee Nyuk Fah Alice, Seagate

Topic: City Data Architecture
- Ferry Chung, DELL

Topic: 5G for Smart City Development
- Tony Duoni, Huawei

Topic: Smart City Experience and Best Practices
- Kyle Lee, Korea Smart Card
- Koji Uebayashi, Ministry of Land, Infrastructure, Transport and Tourism of Japan (MLIT)
- Yasushi Furukawa, Ministry of Internal Affairs and Communications (MIC)
- Vanessa Chew, Smart Nation and Digital Government Office

Topic: Smart City Solution Providers
- Dr. Erik Selberg, Grab
- Andre De Morais, Amadeus Asia Pacific
- Kungwan Laovirojjanakul, Khon Kaen City Development

> *ASEAN Smart City Network (ASCN) Conference and Exhibition 2019*
> *22nd – 24th August 2019*
> *GMM Live House,*
> *Central World Bangkok, Thailand*

Topic: Smart City Framework and Guidance for Thailand: Smart City Phuket
- Teeranun Srihong, Digital Economy Promotion Agency (depa), Board of Commissioners

Topic: Smart City, Leading New ICT, Building Better Smart Cities
- Michael MacDonald, Huawei

Topic: Technology for Smart Cities
- Yasser Helmy, Cisco Systems

Topic: Smart City, Smart for You
- Jack Yang, Inspur

Topic: Strategies to Accelerate Deployment of Basic 'Smart City' Functionality
- Charles Lee Sparkman, SC-Nex

Topic: Advancing Partnership for Sustainability by Representatives from G20 Countries
- Luan Jie, Advisor, People's Republic of China
- Yukihisa Tokunaga, Japan
- Hiromichi Hishinuma, Japan

- Cheon Young-ghil, Republic of Korea
- John D. Breidenstine, The United States
- Kyong-yul Lee, World Smart Sustainable Cities Organization (WeGO)

Topic: SDGs for Sustainable City (SDG 11 12 17 Case Study to Best Practice)
- Pongporn Sudbanthad, DTGO Corporation / MQDC

Topic: Toward Smart Economy
- Somwang Luangphaiboonsri, VISA

Topic: Toward Smart Mobility
- Goh Ker Jia, Grab

Topic: Thailand towards 2030: Future of Travel and Tourism
- Simon Akeroyd, Amadeus Asia Pacific

Topic: Smart Governance "A Catalyst for Smart City Thailand"
- Wiboon Phatrapiboon, Digital Government Development Agency (Public Organization)

Topic: Cyber Security "A Strategic Perspective"
- Dr. Chaichana Mitrpant, Electronic Transactions Development Agency (Public Organization)

Topic: Big Data for Smart City
- Dr. Tiranee Achalakul, Government Big Data Institute (GBDi)

Topic: Data Governance and Smart City Platforms
- Nicholas Soon, Asia DNV GL – Digital Solutions

Topic: Ultimate Driving Force: Reengineering Synergistic Public Private-Partnership
- Nipon Aekwanich, Phuket City Development Company
- Sukumaporn Jongpukdee, National Housing Authority
- Chungha Cha, Re-Imagining Cities (Korea)

Topic: A Case Study of Public Private-Partnership (PPP) Project
- Gan Dai You, Institute for Information Industry(III)

Topic: Visualizing the City: Dynamics of Design
- Joyce Law, Unity Technologies Singapore
- Stijn De Keyser, Unity Technologies Singapore
- Bill Lee, SuperMap Software (China)

Topic: National Charter
- Thapana Bunyapravitra, Thai Association for Town Planning

Topic: Maturity Level of City Development in Thailand
- Asst. Prof. Dr. Poon Thiengburanathum, Thailand Science Research and Innovation (TSRI)

Topic: Urban "Co-Planning": Designing With, Not Just For, the People
- Dr. Niramon Kulsrisombat, Urban Design and Development Center (UDDC)
- Chatpong Chuenrudeemol, Chat Architects
- Techit Jiropaskosol, Satarana

Topic: How Creativity Drives and Makes the City Livable
- Apisit Laistrooglai, Creative Economy Agency (Public Organization)
- Asst. Prof. Asan Suwanarit, Thammasat University Design School
- Saran Yen Panya, 56th Studio
- Hirooka Shigenori, Urban Renaissance Agency (Japan)

Topic: Ranked to Grow: Impact of Smart City Ranking
- Jeat Hong John Low, Roland Berger
- Calvin Chu, Eden Strategy Institute

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กระทรวงพลังงาน MINISTRY OF ENERGY

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