

3rd ASEAN–Japan Smart City Network High Level Meeting

Keynote Speech

Smart Cities in Japan ～ Achievements and Challenges ～

2021.10.18

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Chair of the Board, Japan Research Institute of Roads and Streets

Self Introduction



- ISHIDA Haruo Dr. of Engineering
 - Prof. Emeritus, the University of Tsukuba
 - Chair of the Board, Japan Research Institute of Roads and Streets
- Profile
 - 1951 Born in Osaka
 - 1974 Graduated at the Dept. of Civil Engineering, Tokyo Univ.
 - 1978 Assistant Prof. at Dept. of Civil Engineering, Tokyo Institute of Technology
 - 1982 Prof. at Institute of Social Systems and Management, the University of Tsukuba
- Public services
 - Cabinet Office
 - Member of Committee on Green Innovation Strategy Development and Driving
 - Chair of Committee on Smart City Guide Book
 - Ministry of Land, Infrastructure, Transport and Tourism
 - Chair of Advisory committee on SMART JAMP
 - Chair of Committee on Road Policy , Infrastructure Policy Council
 - Ministry of Economy, Industry and Trade
 - Member of Council on Industry Policy
 - Member of Committee on Autonomous Driving Business

Contents



- My Questions about Smart City
 - What is Smart City?
 - Real and Cyber
- Smart City Achievements in Japan
- Japanese Challenges and Collaboration with ASEAN Cities

1st Question: What is Smart City ?



- We have a formal definition of SMART CITY
 - A comprehensive showcase of Society 5.0 where we try to urban/regional problems and create new values through advanced ICT and management
- There are already so many smart cities in the world,
 - Aiming at different values/objectives
 - Having various areas of concerns; mobility, environment/CN, living, healthcare, disaster prevention/resilience , tourism, city management/administration,
 - Using different data, applications, data platforms,....
- My answer; “No SINGLE/SIMPLE Definition is possible.”
- Easier answer would be **Technical/Methodological Definition**
 - Applying various ICT to make cities and communities better
 - Applying various ICT to improve daily lives and working conditions
 - Applying various ICT to improve public administration
 - Applying various ICT to encourage innovation
 - Applying various ICT to

Possible Scene of Smart City Attempt



- A mayor wants to make his/her city better through SAMRT CITY Concept and request staff to develop plans.
- The easiest way for staff is to follow the technical/ methodological way : Smart City Flavor and to employ IT consultant.
- But, this is definitely not right ways.
- Smart City should aim at solving urban/regional problems, being human-oriented, being demand/needs oriented and so on.

2nd Question The Relationship between REAL and CYBER



- Modern economics has a problem of same structure; MORALITY and ECONOMY
 - Adam Smith 1723.6.5 – 1790.7.17
 - An Inquiry into the Nature and Causes of the the Wealth of Nations
 - Theory of Moral Sentiments
 - Max Weber 1864.4.21—1920.6.14
 - Die protestantische Ethik und der 'Geist' des Kapitalismus
 - Ninomiya Sontoku 1787.9.4—1856.11.17
 - Morality without economy is talking in sleep
 - Economy without morality is crime

Smart City without ICT / Data is talking in sleep

Smart City without REALITY is..... ?

might be super effective,

but might be unhappy, uncomfortable, unhealthy ,unequal,



Ninomiya Sontoku's statue
of his young age
In an elementary school garden
Phot by TSUYOSHI/Y

Achievements of Smart City Projects in Japan



- Smart City Projects in Japan
- Challenging and Distinctive Trials
 - Aizu Wakamatsu Comprehensive Smart City
 - Maebashi EBPM and Fast PDCA Cycle
 - Kakogawa Protecting Citizens against Disasters and Crimes
- Two Guidebooks based on Shared Experiences and Recognitions
 - Smart City Architecture Reference Book
 - Smart City Guidebook
- Short Summary

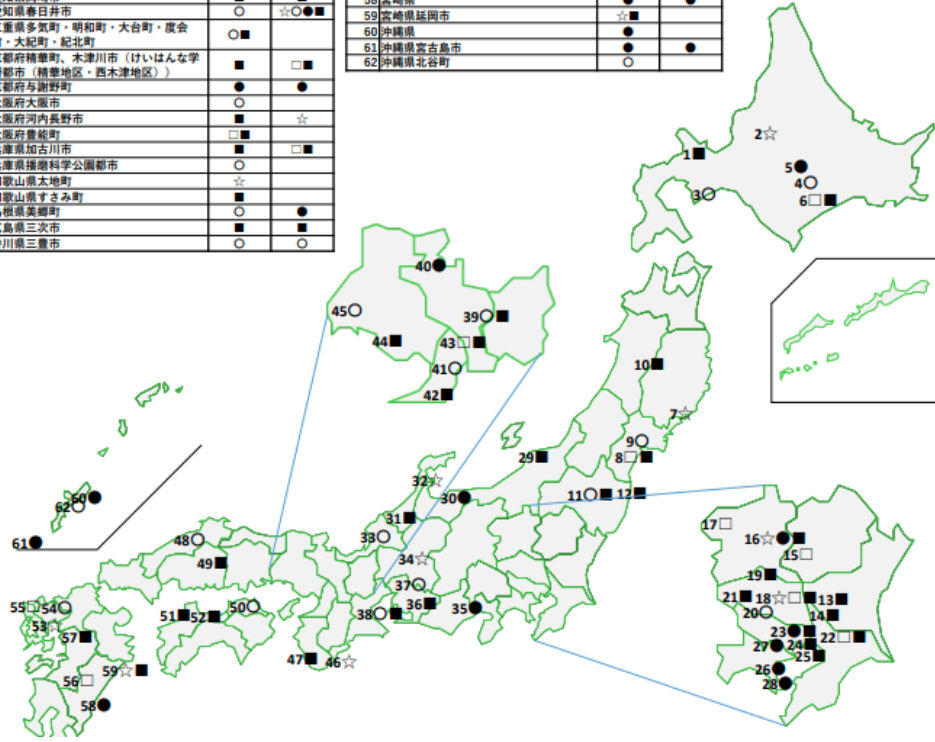
Smart City Projects in 2021



項目	プロジェクト実施地域	選定事業	過年度選定	項目	プロジェクト実施地域	選定事業	過年度選定	項目	プロジェクト実施地域	選定事業	過年度選定
1	北海道札幌市	■	□●■	29	新潟県新潟市	■	○■	51	愛媛県松山市	■	■
2	北海道旭川市	☆	■	30	富山県朝日町	●	■	52	愛媛県新居浜市	■	□■
3	北海道室蘭市	○	■	31	石川県加賀市	■	□●■	53	佐賀県糟野市	☆	■
4	北海道帯広市	○	●	32	石川県中能登町	☆	■	54	佐賀県基山町	○	■
5	北海道芽室町	●	■	33	福井県永平寺町	○	○■	55	長崎県	□	■
6	北海道厚別村	□■	☆	34	岐阜県中津川市	☆	■	56	熊本県人吉市	□	■
7	宮城県仙台市	☆	■	35	静岡県静岡市	●	○●	57	熊本県荒尾市	■	■
8	宮城県仙台市	□■	■	36	愛知県岡崎市	■	■	58	宮崎県	●	■
9	山形県東区常光台・八乙女地区	○	■	37	愛知県春日井市	○	☆○●■	59	宮崎県延岡市	☆	■
10	秋田県仙北市	■	☆	38	三重県多気町・明和町・大台町・度会町・大紀町・紀北町	○	■	60	沖縄県	○	■
11	福島県会津若松市	○■	□○●	39	京都府精華町・木津川市(けいはんな学研都市(精華地区・西木津地区))	■	□■	61	沖縄県宮古島市	○	●
12	福島県南相馬市	■	■	40	京都府与謝野町	○	●	62	沖縄県北谷町	○	■
13	茨城県つくば市	■	●■	41	大阪府大阪市	○	■				
14	茨城県守谷市	■	■	42	大阪府河内長野市	○	☆				
15	栃木県佐野市	□	■	43	大阪府豊能町	□■	■				
16	群馬県前橋市	☆●■	○●■	44	兵庫県加古川市	■	□■				
17	群馬県碓氷村	□	□■	45	兵庫県播磨科学公園都市	○	■				
18	埼玉県さいたま市	☆■	□■	46	和歌山県太地町	☆	■				
19	埼玉県熊谷市	■	■	47	和歌山県すさみ町	■	■				
20	埼玉県入間市 富寺・二本木、東金子、余子、勝沢第一・第二エリア	○	■	48	島根県美郷町	○	●				
21	埼玉県毛呂山町	■	■	49	広島県三次市	○	■				
22	千葉県柏市	□■	■	50	香川県三豊市	○	○				
23	東京都千代田区(大手町・丸の内、有楽町地区)	●■	■								
24	東京都港区(竹芝地区)	■	■								
25	東京都大田区(羽田空港跡地第1ゾーン)	■	□■								
26	山手線周辺/横須賀市	●	■								
27	川崎市、稲根町	●	○●								
28	神奈川県横浜須賀野、三浦市	●	●								

内閣府「未来技術社会実装事業」	☆
総務省「データ連携促進型スマートシティ推進事業」※1	□
経済産業省「地域新MaaS創出推進事業」	○
国土交通省「日本版MaaS推進・支援事業」※2	●
国土交通省「スマートシティモデルプロジェクト」	■

※1令和2年度までの実施名は「データ活用型スマートシティ推進事業」
 ※2令和元年度の実施名は「新モビリティサービス推進事業」



FACTS

Assistance are given to 62 projects in 42 cities

Project Category

- METI: MaaS, MLIT: MaaS, MLIT: Smart City,
- MCI: Smart City, CO: Future Technology

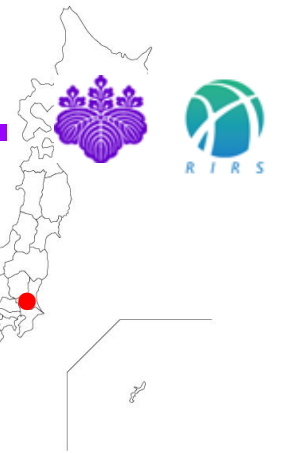
Achievements

Good cooperation/collaboration between Local gov. and National gov.

- Local Needs, Problems based
- National Financial, Technical and Human resource assistance
- Platform for sharing needs, problems and results

300+ consortiums to discuss, plan and implement Smart City Projects across Japan

Comprehensive Smart City Aidzu Wakamatsu



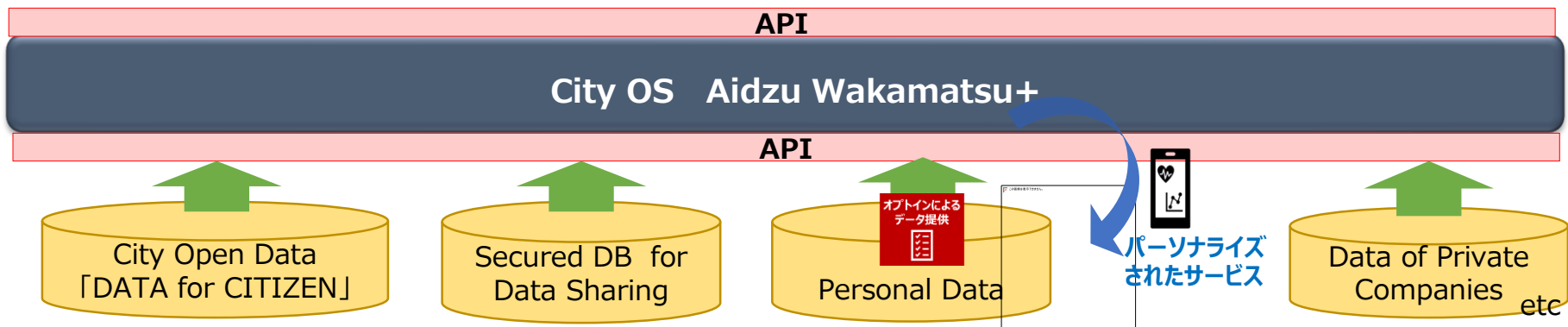
Wide varieties of Services

Collaboration among various Stakeholders

City OS

Pop. 121,000

Area 383km²



Source
Aidzu Wakamatsu City
Modified by Ishida

EBPM City Management Maebashi

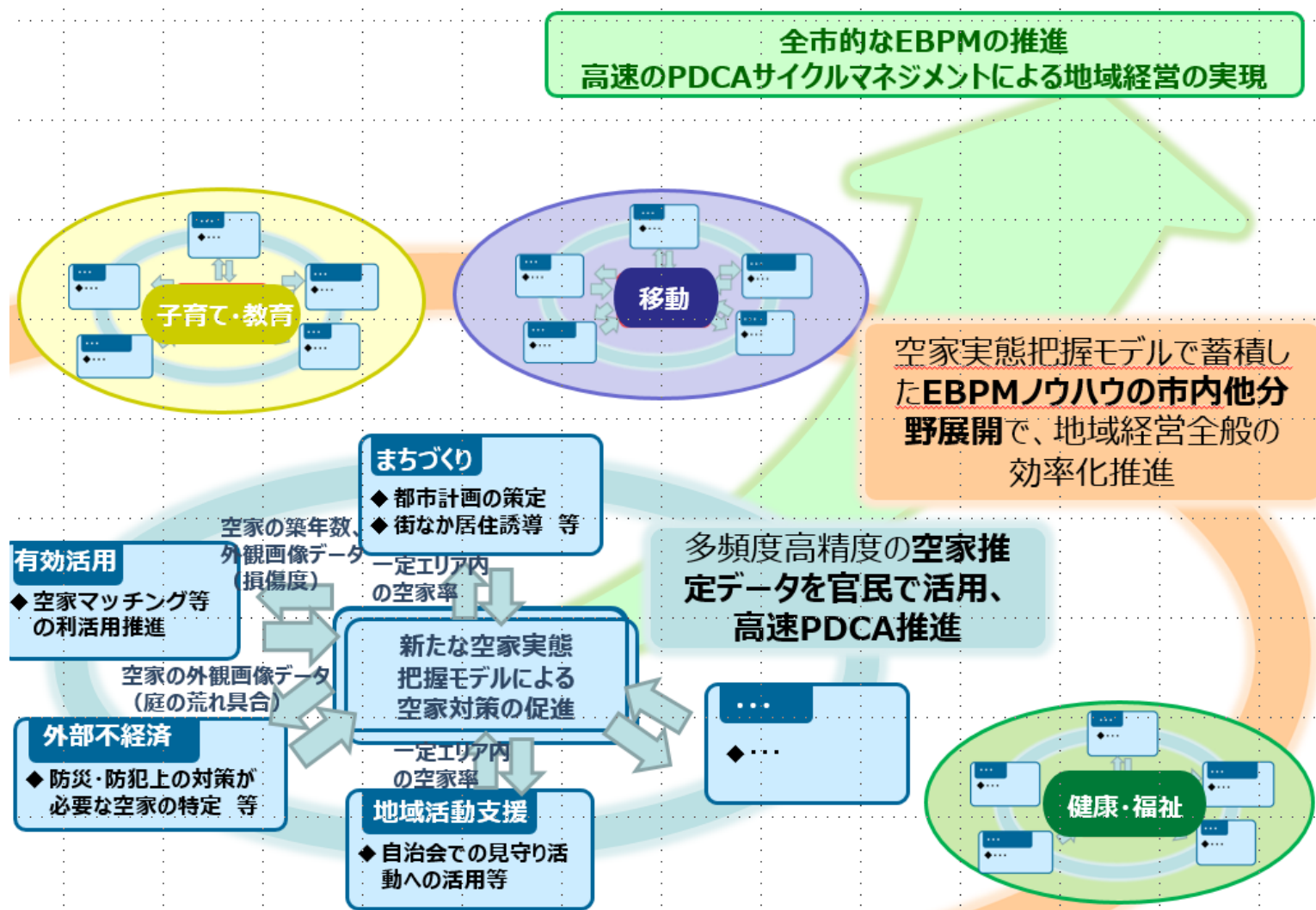
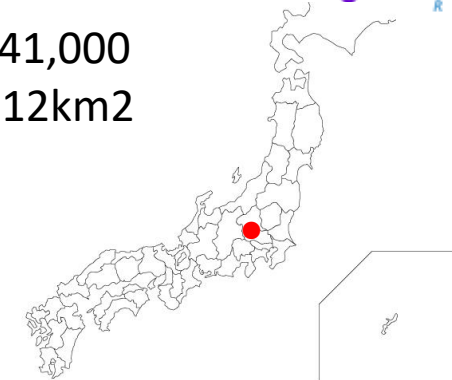


Evidence-based Policy Making and Fast PDCA Cycle Management

Urban Regeneration, Healthcare, Community activities,...

Pop. 341,000

Area 312km²



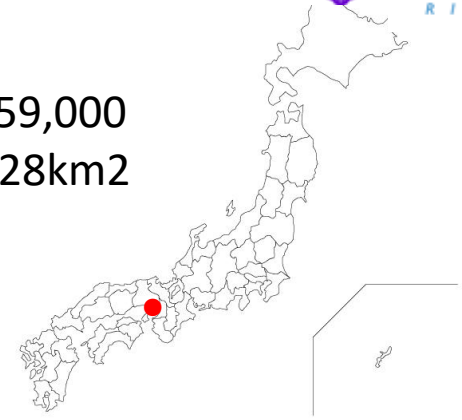
Source Maebashi city

Protecting Citizens against Disasters, Accidents and Crimes Kakogawa

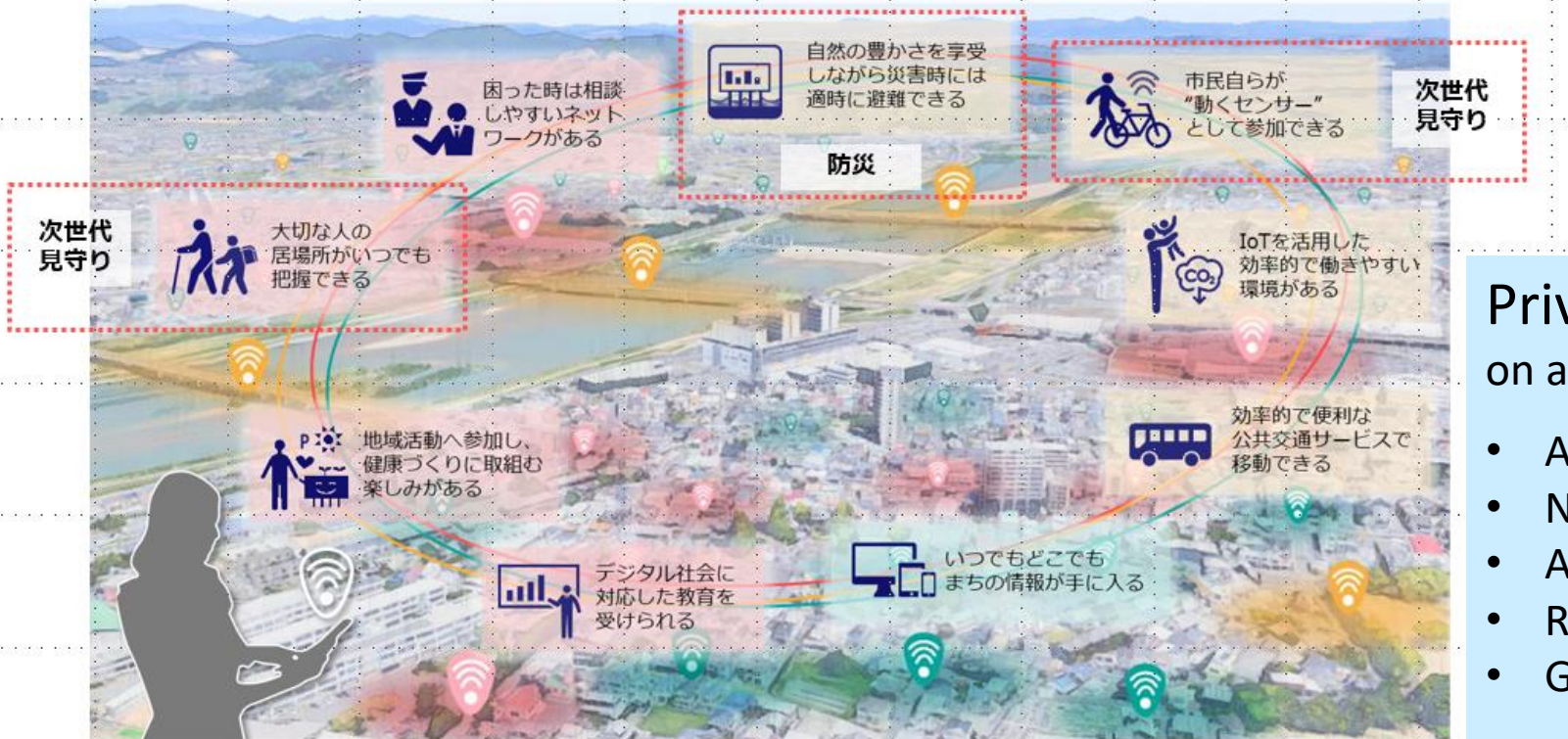


Disaster prevention/ Resilience
Warm watch over elderly peoples and children

Pop. 259,000
Area 128km²



【市民】市民のQOLや利便性を向上するサービス 【まち】都市機能の強化や都市課題の解決 【行政】デジタル行政の推進



Private observation on achievements in 3 cities

- Ambitious visions
 - Needs/Problems driven
 - Active/close co- working in teams
 - Rich technologies and products are available
 - Good Leader/ Architect
-
- In many Smart Cities various, various things are tried, achieved and failed
 - These experiences and lessons are shared through the Smart City Platform

Smart City Guidebook

Cabinet office, MIC, METI, MLIT,
Smart City Public-Private Partnership Platform



2021.04 ver.1.00

スマートシティガイドブック

内閣府・総務省・経済産業省・国土交通省
スマートシティ官民連携プラットフォーム事務局

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Purposes

- To extend the significances and needs of SMART CITY
- To encourage and support local public organizations, consortiums by providing them basic ideas, theories, methods and good/advanced practices

SMART CITY is not only for Special Areas such as center of metropolis, but for any places including rural/local areas

- Japanese Version Only . Not yet translated into English

Philosophy of SMART CITY



- Three Basic Concepts
 - Starting from Citizen and User Demands/Needs/Wants
 - Focusing on Issues and Visions
 - Cooperating/Collaborating across Sectors and Neighbor Cities
- Five Basic Principles
 - Fairness and Inclusiveness
 - Privacy Protection
 - Sustainable Operation and Funding
 - Interoperability, Openness and Transparency
 - Security and Resiliency

These are TRUE.

But, How to START, DRIVE, CONTINUE, IMPROVE SMART CITY?

Five Stages of SMART CITY



- Preliminary Action Stage vision making, organization setup,
- Preparatory Stage vision sharing, appointment of leading organization and architect,
- Planning Stage consortium setup, road map,
- Implementing Stage verification-demonstration
- Continuous Development wider, deeper, more effective and everywhere, every things

- Good practices are given to first 4 stages to start actions easier

Five Important Points of SMART CITY Projects



- Building Functional and Flexible Driving Entities **Organizations**
- Ensuring Financial Sustainability **Financial Power**
- Proactive Citizen Involvement **Public Acceptance and Support**
- Introduction of City OS **ICT**
- Appropriate monitoring and evaluation of Project **Evaluation and Fast PDCA**

- Good practices are given in this guidebook
- And representative good practices will be presented today in the evening sessions

SMART LOCAL

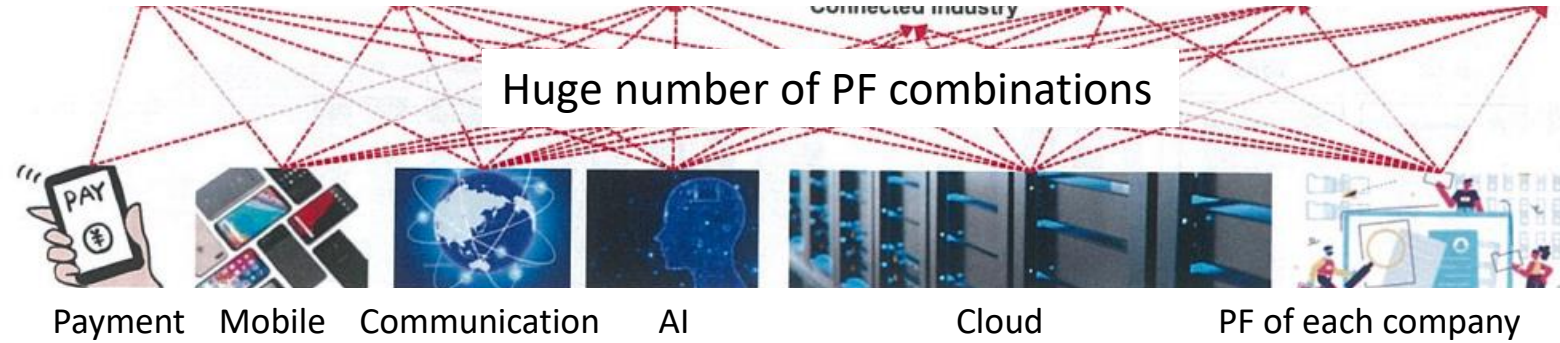


- Japan is now facing difficult problems, esp. in rural areas
 - Decreasing and aging population
 - Deteriorating Public Transport
 - Deteriorating industries
 - Many communities/municipalities are said to disappear
- Local cities need SMART CITY much more than big cities. But, many of them think SMART CITY is special and only for big city
- Good but few practices are introduced

Necessity and Importance of CITY OS



Huge number of PF combinations



Many Services in cities
Many PF and Apl. in cities

They are growing
Rapidly
Independently
Day by Day

Harmonization among these
Services and PFs are almost
impossible without CITY OS

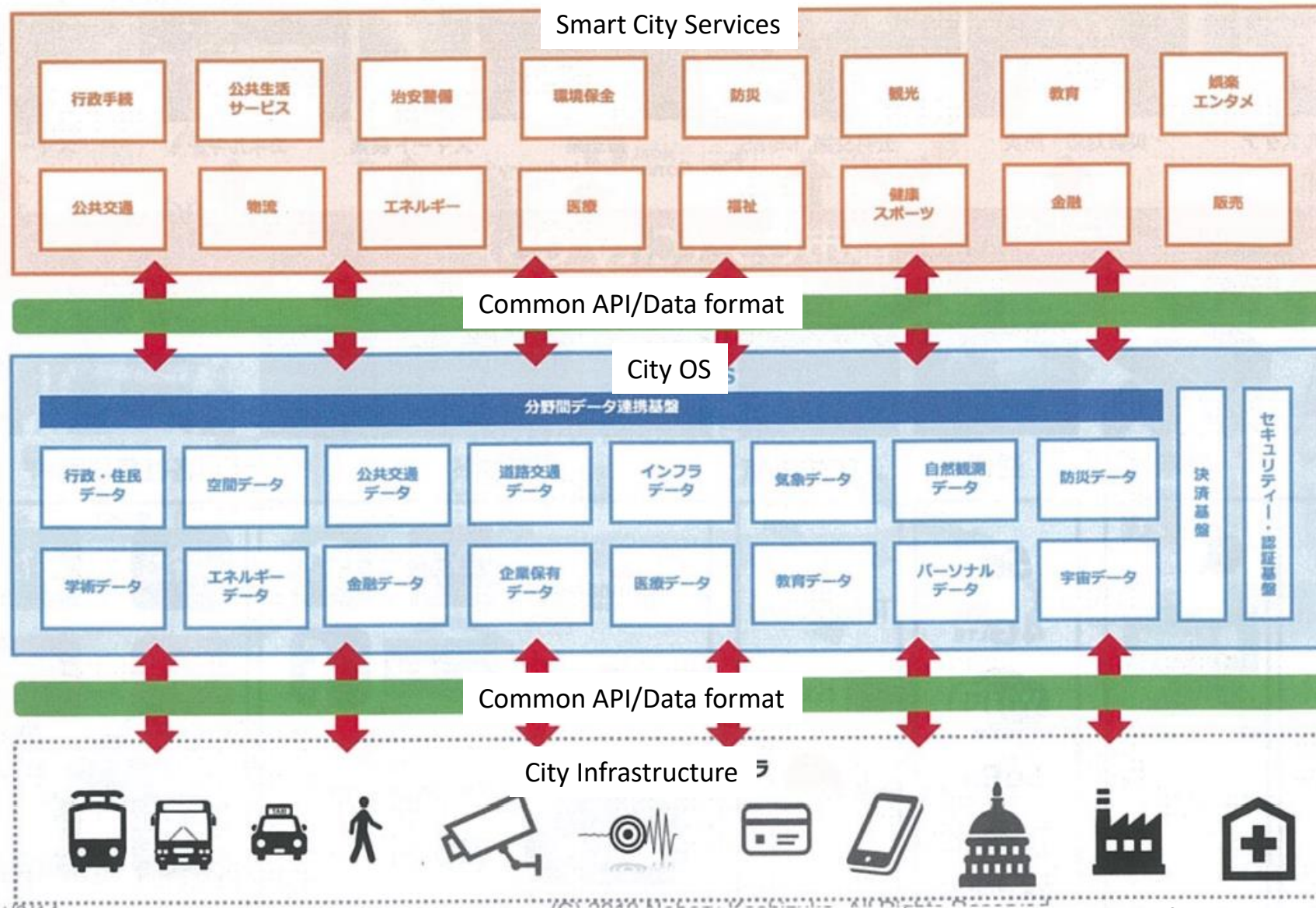
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OS is originally for computers
OS manages all of computer system
CITY is like huge computer systems
in ICT era.

WE NEED CITY OS!!

Standard Configuration of CITY OS



Wide and deep knowledge

Growing/Changing

Rapid correspondence to changes in services, Data PF, Apls, technologies

SMART CITY

Reference Architecture

SAMRT CITY Reference Architecture Guide Book



Easy to read

Encouraging related/concerned persons to start
SMART CITY

Sorry, not yet translated

Short Summary



- Many SMART CITY Consortium are active and they are very important stocks
 - They provide us with valuable knowledge/experiences/lessons
- Many technologies such as ICT, OS design, Consensus building have evolved tremendously
- Collaboration among National gov., Local gov., Private firms etc. is so far good
 - Exciting wonderful reports are coming
 - Two guidebook are available (but only in Japanese)
- However, outcomes in real cities and regions are still limited
 - Further efforts to strengthen, enlarge and enrich SMART CITY are required
 - Improving / modifying Legal, Institutional, Business setup
 - Changing Mindset of related stakeholders
- International collaboration too

Challenges and Collaboration with ASEAN Cities



- Japanese cities, ASEAN cities and world cities have been trying to achieve many objectives; improvement of well-being, resilience, attractiveness, mobility services, city management, economic vitality, ...
- SMART CITY can be quite powerful tool. We should collaborate further to produce, increase and share rich fruit of SAMRT CITY

Smart JAMP Smart City supported by Japan-ASEAN Mutual Partnership

- Implementation of concrete smart city project formation
- Promotion of financial support for ASEAN smart city proposals
- Strengthening support for smart city in ASEAN countries
- Smooth information sharing and mutual cooperation through JASCA homepage
- **Smart JAMP is very important for Japan, too.**
 - **To mobilize Japan**
 - **To widen, deepen and strengthen Mutual Partnership, Trust and Friendship**
 - **To synchronize development of Japan with ASEAN countries**

We will go foreword
STRONGLY and TOGETHER!!

Thank you for your attention