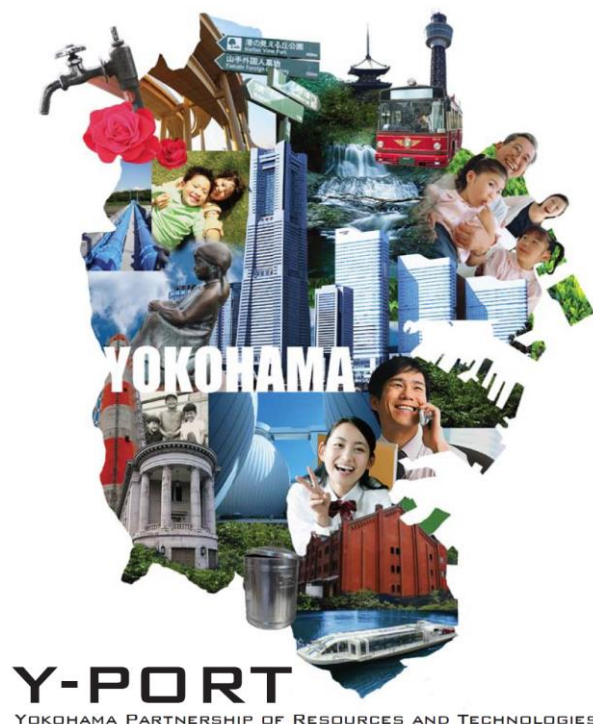


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# ***Smart City Management and City to City Collaboration***



***Toru HASHIMOTO***

***Director of International Technical Cooperation Division, City of Yokohama***

# ***Smart City Management of Yokohama***



**BEMS**

**Wind  
power**

**CEMS**

**“Smart City Management”**  
**Beyond “Smart City Technology”**

**Phot  
Po**

**ration**

**Open Data**

**Smart  
meter**

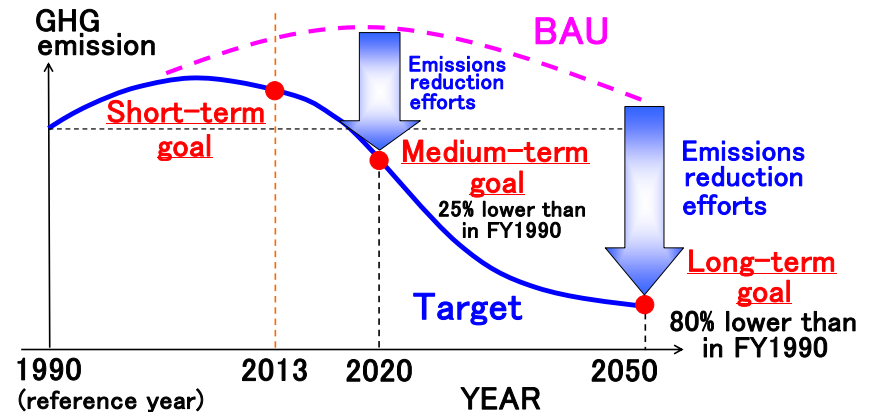
**Storage  
battery**

**ITS**

# Tackling future problems in Yokohama

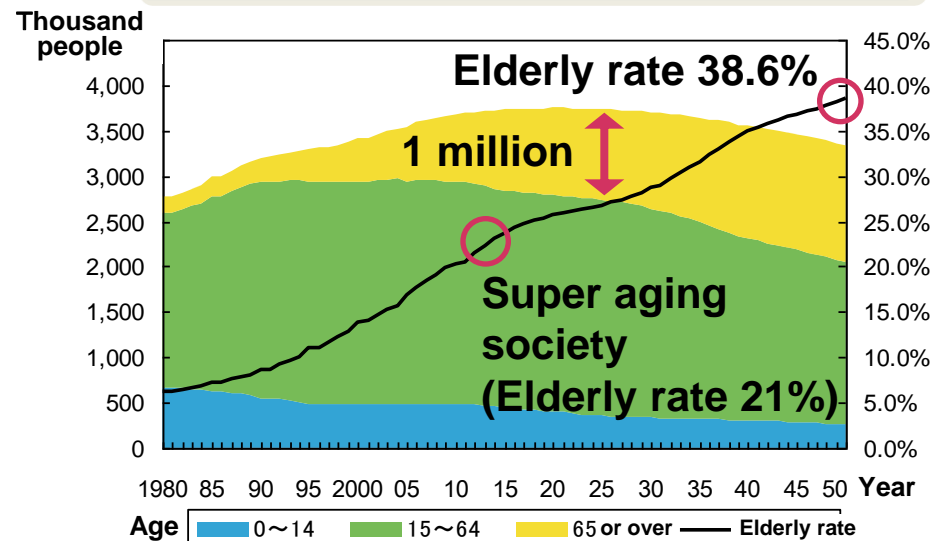
## Estimated GHG emission in Yokohama

- ◆ Increase of GHG emission
  - Rapid population growth (3.5 times that of 60 years ago)
  - Population in Yokohama expected to increase until 2020

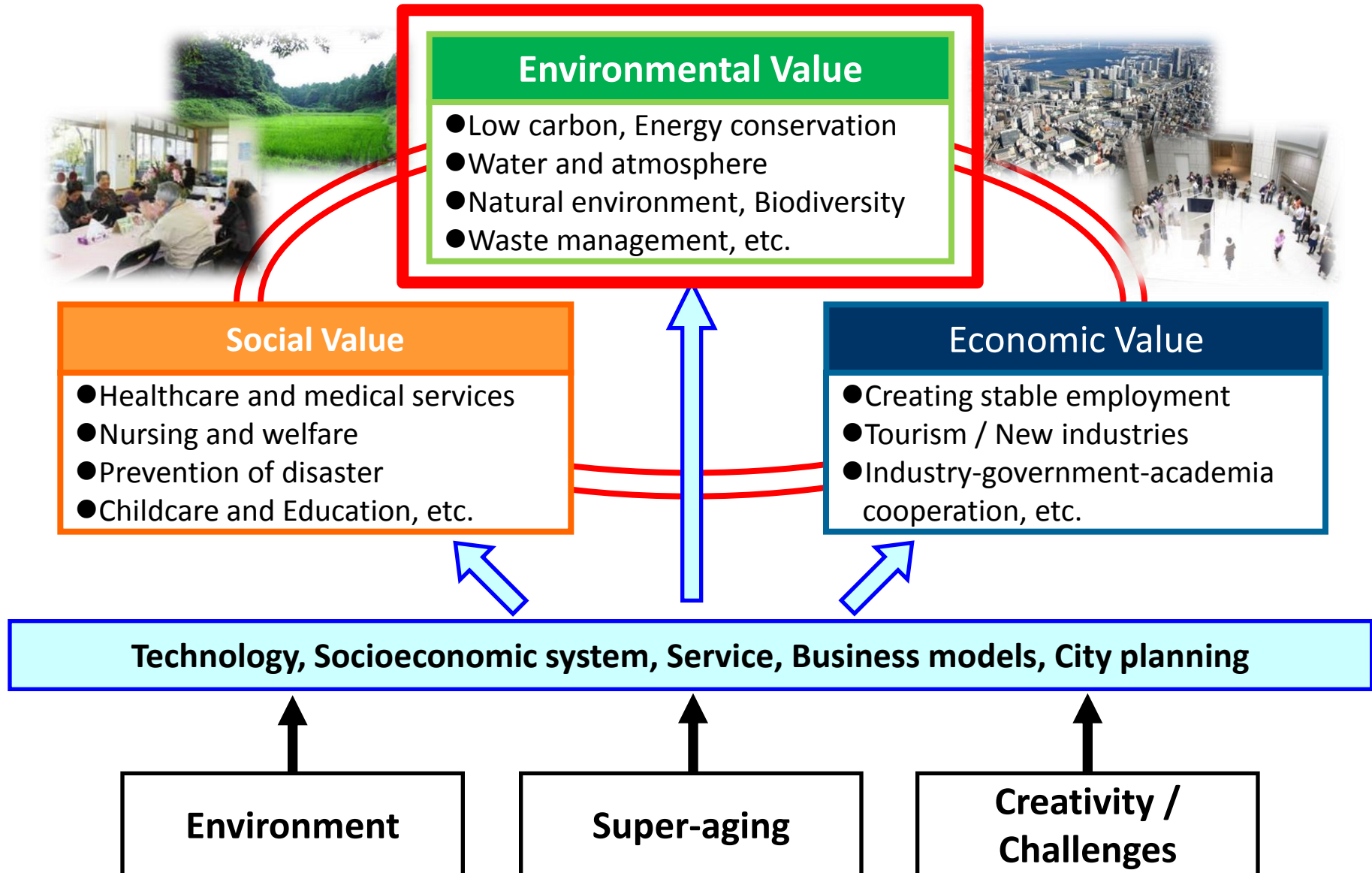


- ◆ Super aging at rapid pace
  - Yokohama to face super aging society around 2012 with a rate of more than 21%
  - Population over 65 in Yokohama exceeds 1 million in 2025

## Estimated population in Yokohama

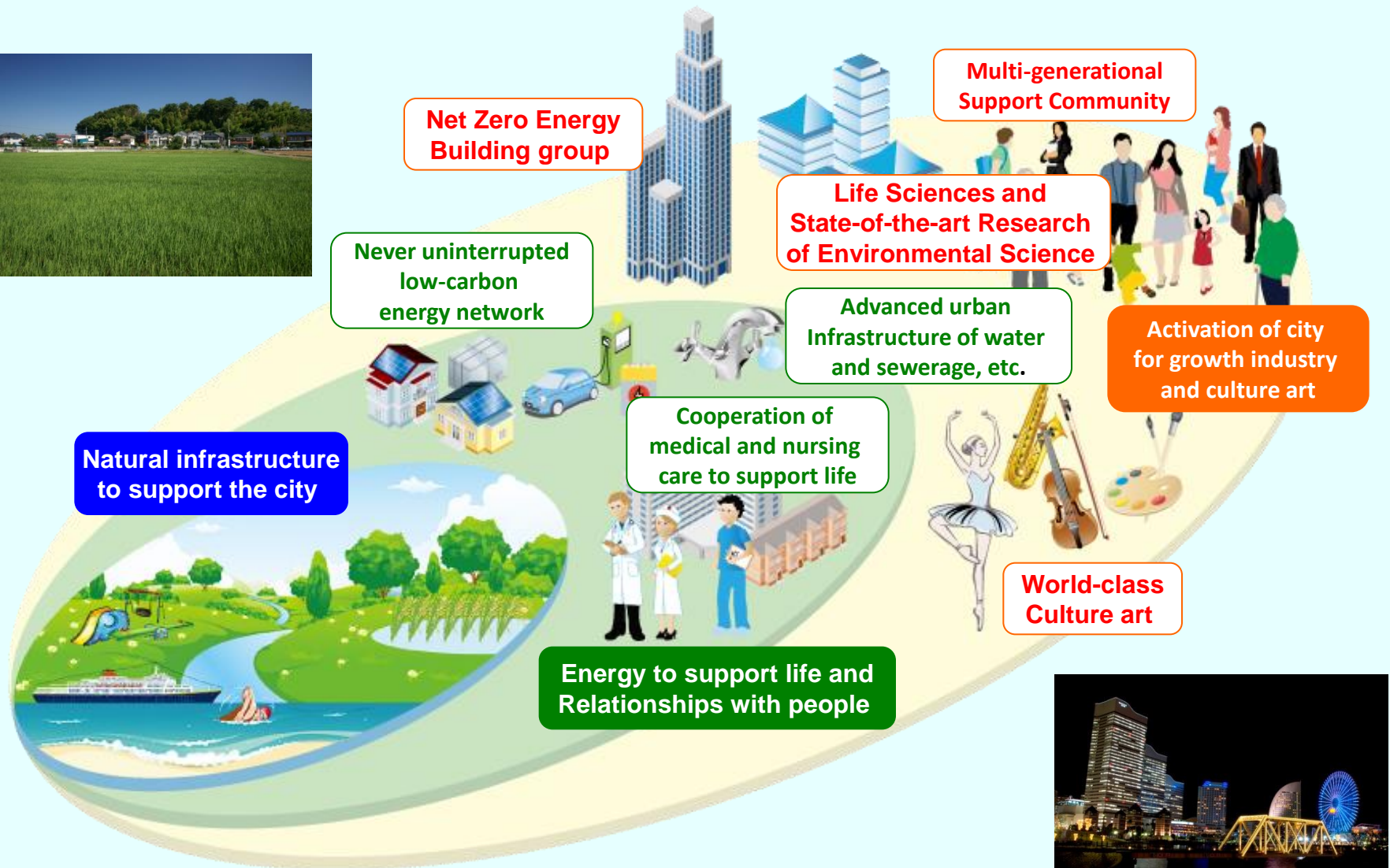


# Yokohama as “FutureCity”

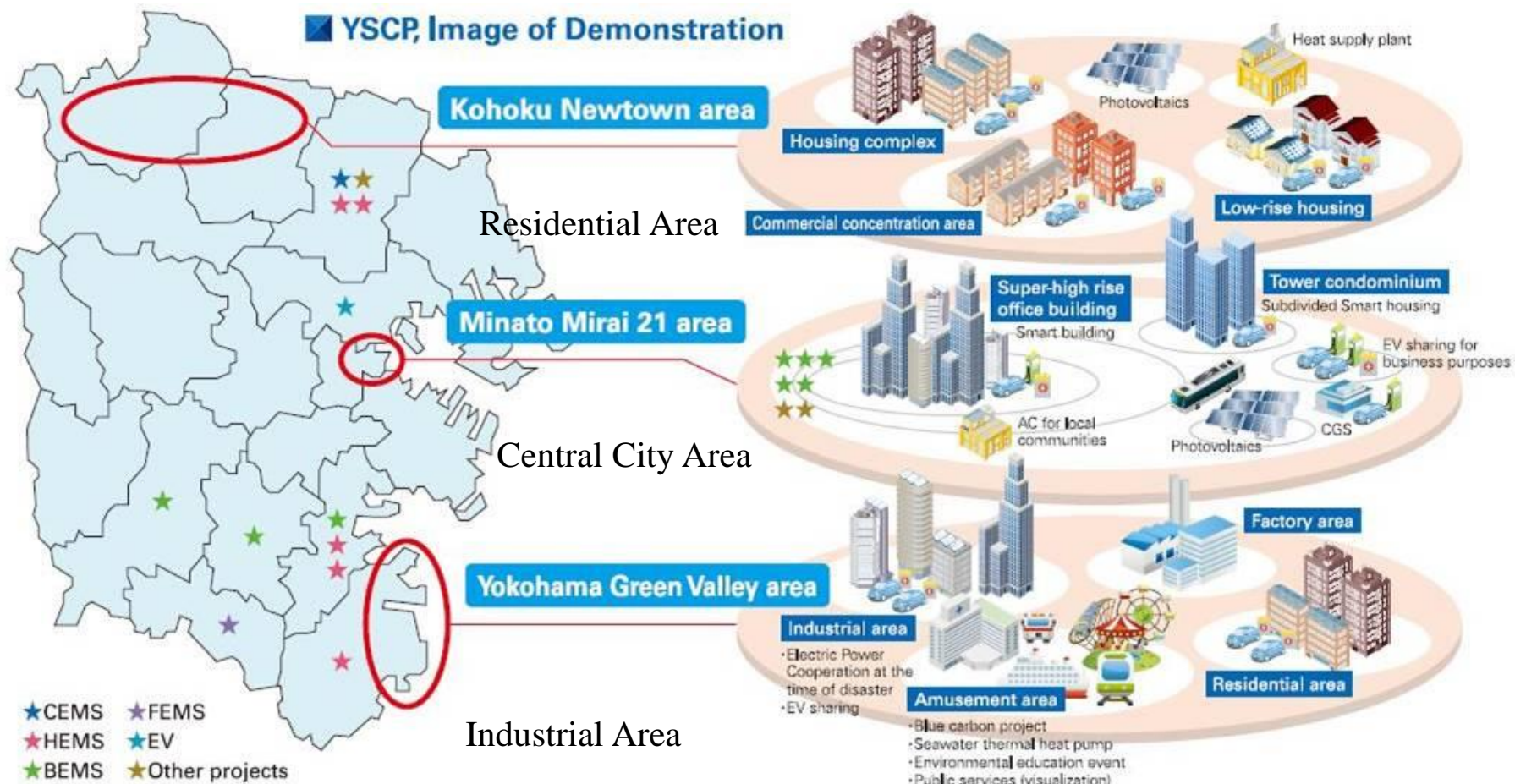




# Yokohama as “FutureCity”



# Renewable Energy Projects

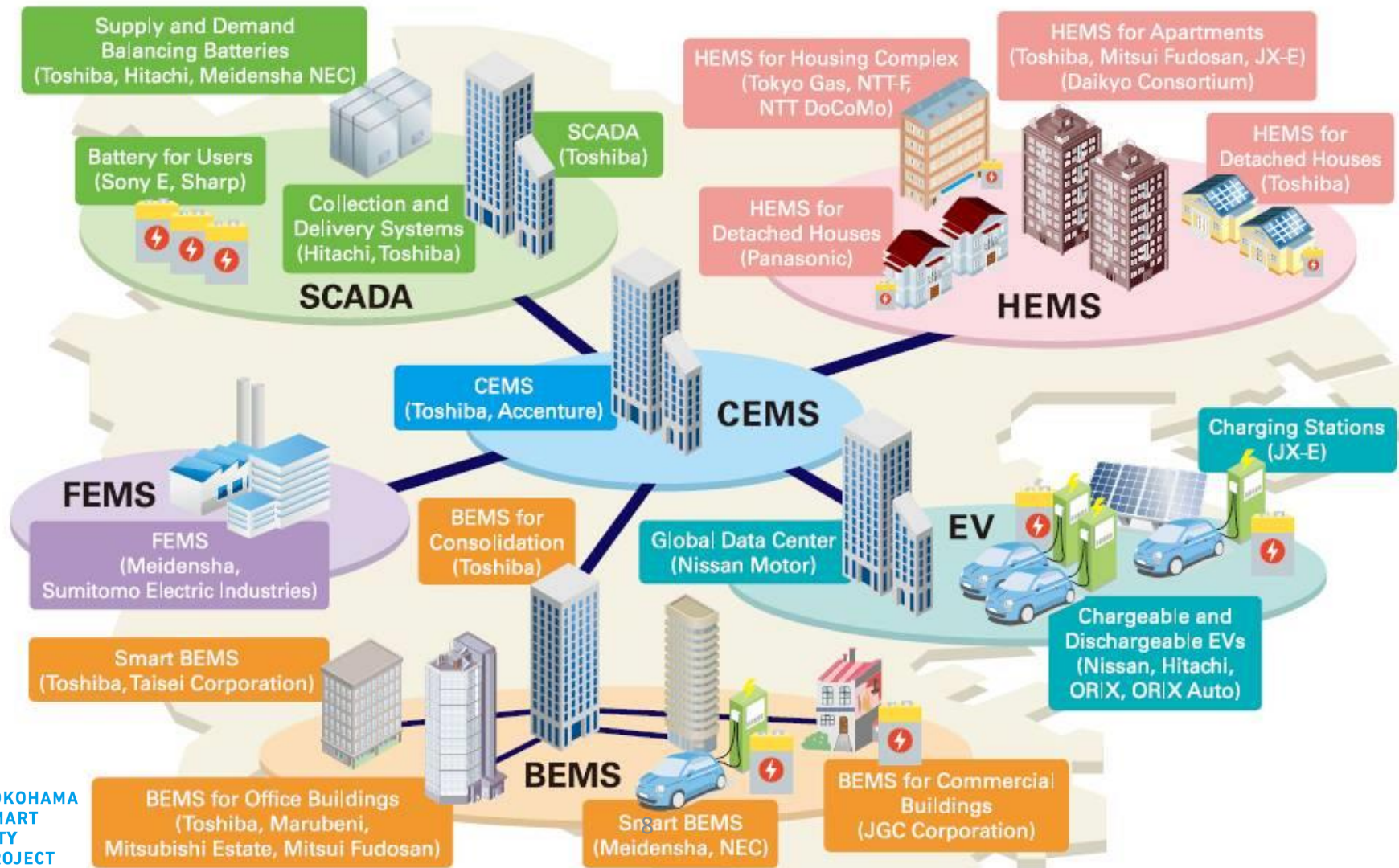




# Overview of demonstration experiments

(Energy management systems)

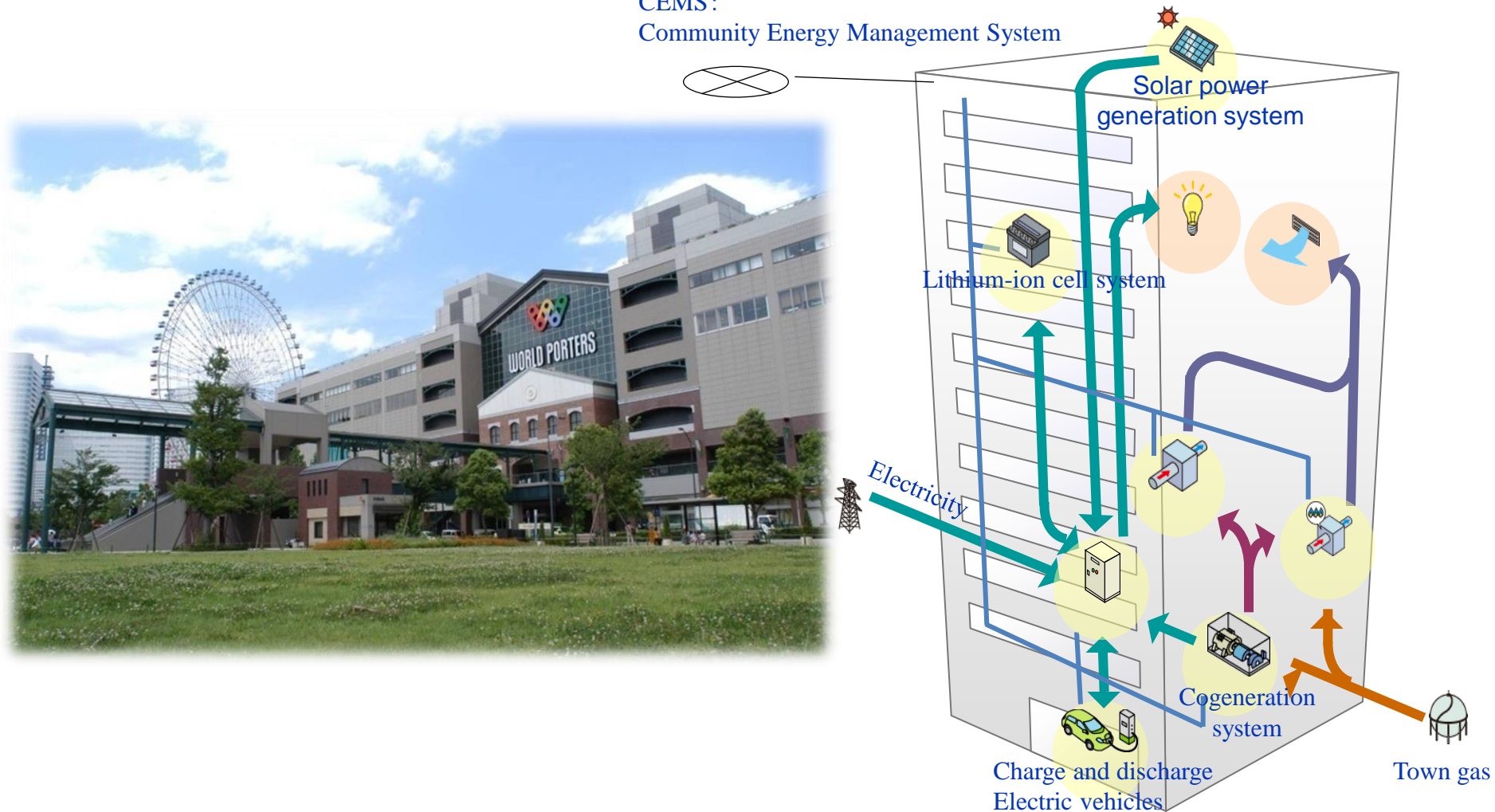
Target by the end of 2014 PV 27MW / HMS 4,000 units / EV 2,000 vehicles





## BEMS (Building Energy Management System)

CEMS :  
Community Energy Management System



# <Home> Optimization of Electricity Consumption



## Efforts in single-family house

### • Visualization of Electricity

Amount of electricity consumed from April to July 2011 was on average reduced approximately 20% from the previous year.  
**= Effect of introducing PV and HEMS**

## Efforts in Collective housing

- Application equipment of renewable energy
- Control all over collective housing by integrated control system and demonstration
- Visualization of energy and incentive setting **by HEMS**, and support for energy saving action in household





# <Transportation> Making Yokohama a City of Electric Vehicles



**EV sharing in industrial area and shopping district**



**Starting test utilization for visiting medical care and nursing care in a hospital**



**Not only means of transportation, but also function of storage battery**



# ● Minato Mirai 21 District: Showcase of Yokohama's urban development

Urban  
Planning

## ○ Greener City Center



Grand mall park



Cherry blossom street

## ○ Integration of History, Culture and Art

Nippon Maru  
Memorial Park



Red Brick Warehouses



MM21 Pedestrian Bridge  
LED Lighting



Utility Tunnels



Moving walkway at  
Sakuragicho station



Landmark Tower



Reusing rain and  
wastewater

## ○ Utilization of Renewable Energy towards Low Carbon Emission



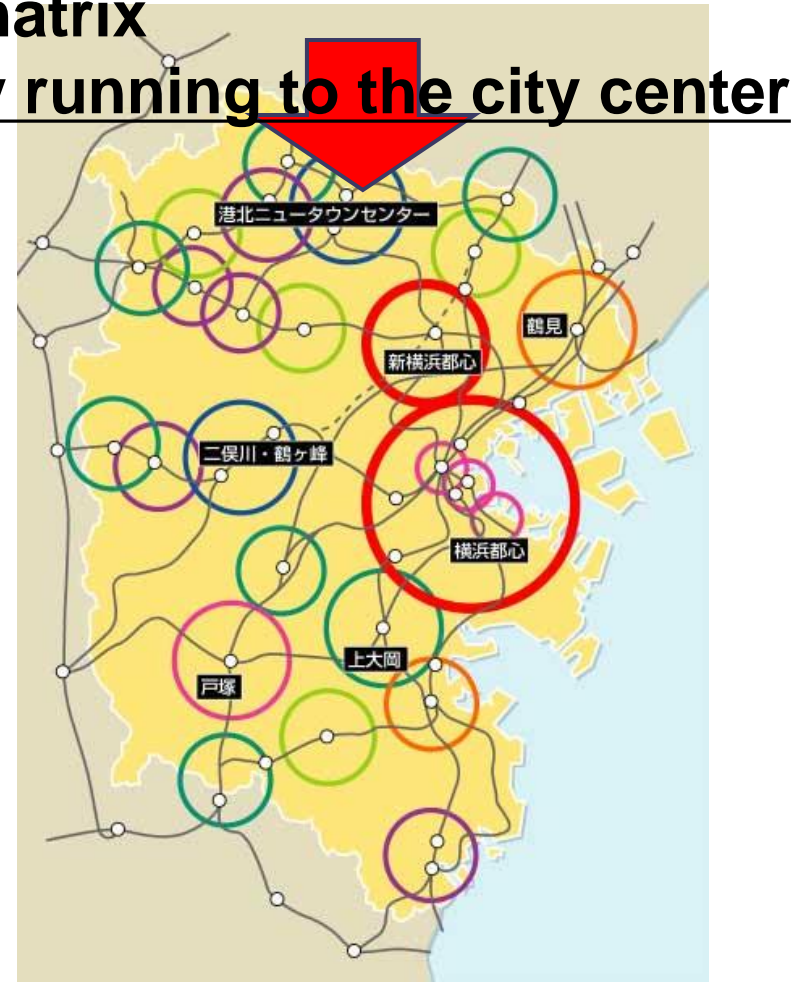
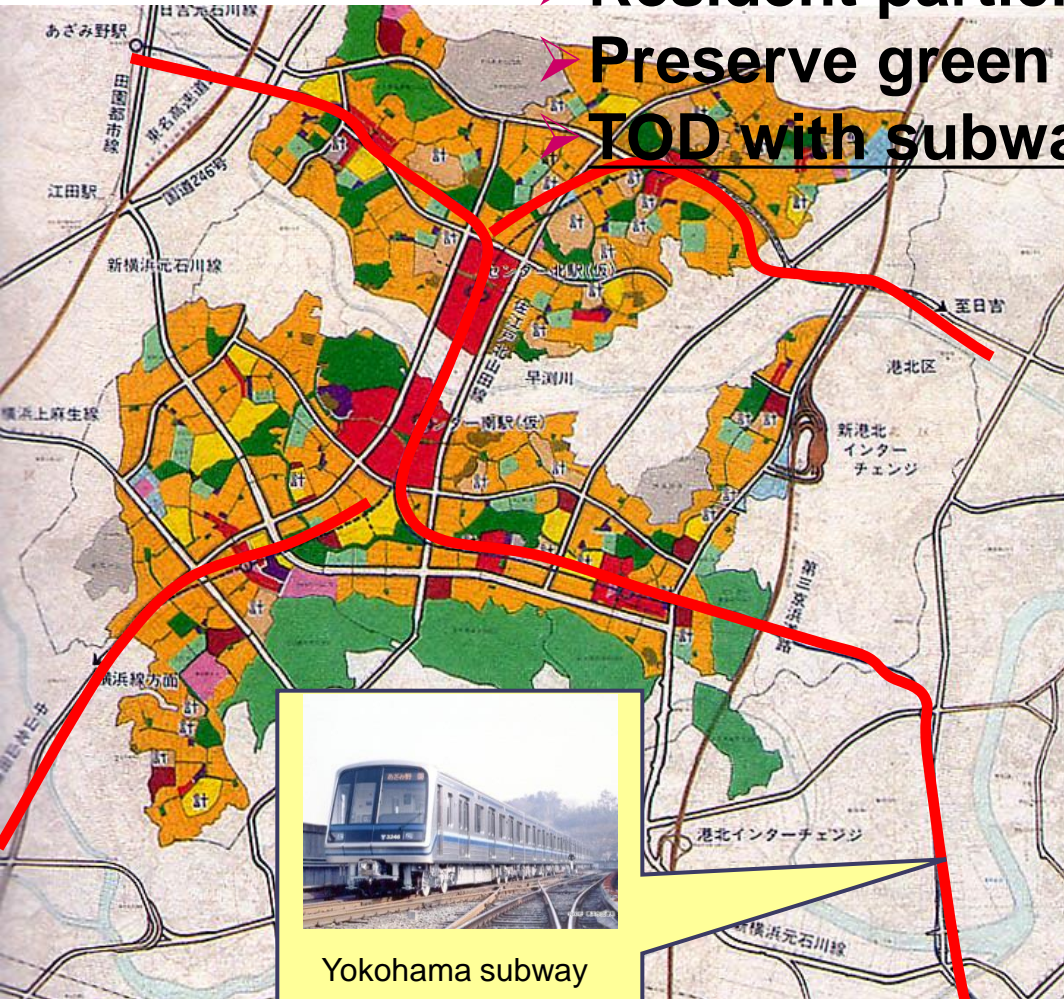
# Optimized Energy Management of the City as a Whole





# Description of the Kohoku New Town

- Project Area: Approx. 1,340 ha
- Design population: 220,000
- Resident participation in planning process
- Preserve green matrix
- TOD with subway running to the city center





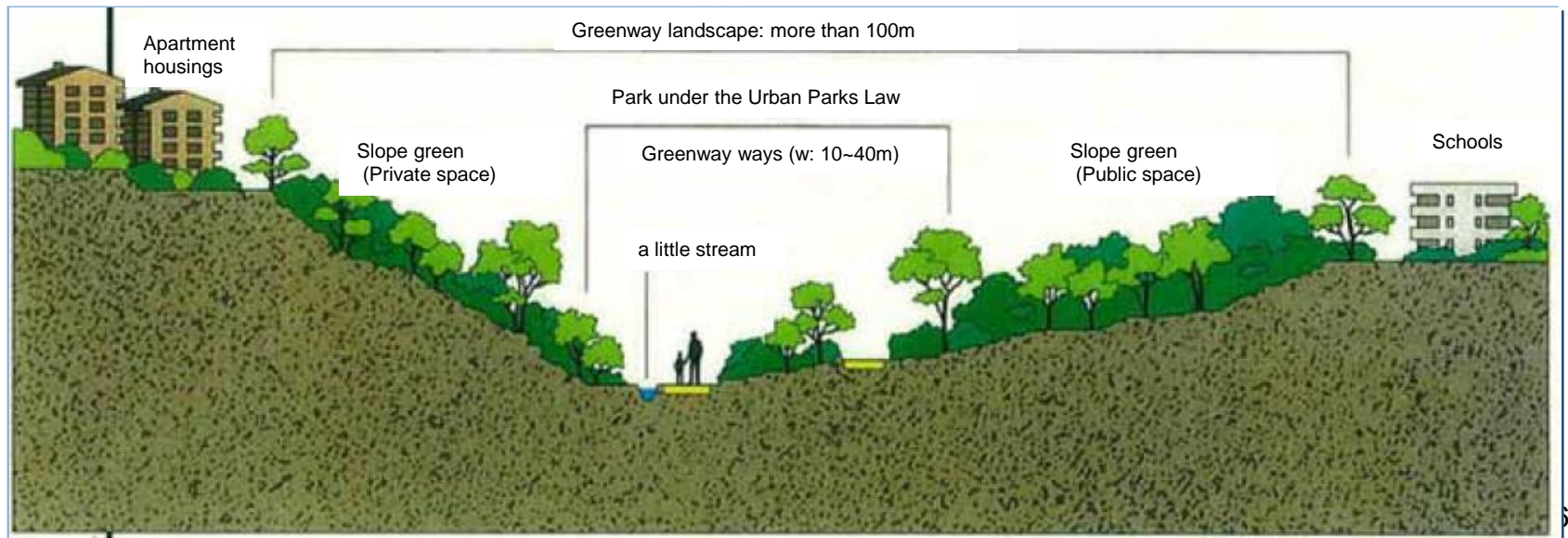
# Achievements in the Project

**Residential area ensuring good environments with**

- **Competitive town center**
- **Multifunctional parks and green belt**
- **Public transportation network**

# Multifunctional parks and green belt

- “Green Matrix System” ensures the conservation of the existing greenery as well as positive integration of public and privately-owned forests.
- Building a 14.5-km green way.
- Greenway landscape range: Up to approximately 100 m (width including slope green on privately-owned land)



# Achievements of “Yokohama G30”

- ◆ **Problem:** Waste emissions increasing faster than population
- ◆ **Target:** Cut waste emissions by 30% by 2010 (from 2001 level)

Full separation of waste

Started in 2003

Collection/recycling of used products

- ◆ **Target achieved 5 years ahead of schedule**  
(about 40% reduction as of 2009)
- ◆ **Effects of reduction**
  - Saved ¥110 billion it would have cost to replace two incineration plants
  - Saved ¥3 billion in running costs
  - Equivalent to a 47% cut in CO<sub>2</sub>



**Taking every opportunity to enlighten, explain and encourage**

- Explanatory meetings for citizens (more than 11,000 times).
- Campaigns at all stations; events; etc.

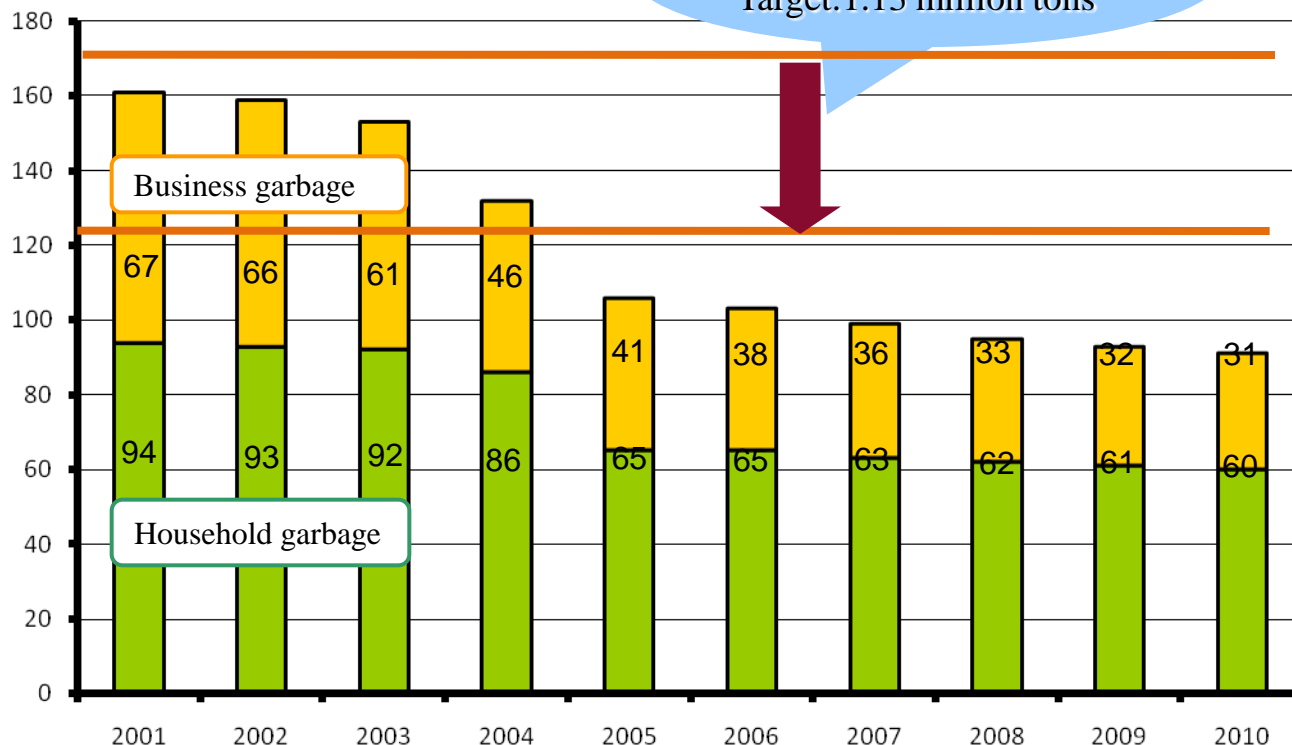


# <G30> Achievement and next steps forward

## Power of Yokohama Citizens

[10,000 tons]

Yokohama G30 Plan  
Target: 1.13 million tons



Yokohama G30 Plan (Jan. 2003)

Yokohama 3R  
Dream (Slim)  
(Jan. 2011)

# Citizen's Participation



Mayor's Meeting with 10,000 citizens



# Citizen's Participation





# Yokohama International Open Data Day 2014 (2014.2.22)



日本最大・世界最大級！





# External Recognition on Achievement by the City of Yokohama

LEE KUAN YEW  
WORLD CITY ○  
PRIZE

## 2014 SPECIAL MENTION: CITY OF YOKOHAMA



- The Lee Kuan Yew World City Prize is a biennial international award that honours outstanding achievements and contributions to the creation of liveable, vibrant and sustainable urban communities around the world.
- In 2014, Yokohama was selected for Special Mention, and will be awarded during the World Cities Summit in June.
- Yokohama was recognised for overcoming its urban challenges faced over the last 40 years through excellent partnership with its citizens and stakeholders. Also the Y-PORT programme was mentioned for its clever marriage of economic growth and international contribution by tying up with local businesses to export urban solutions to emerging cities.





# ***Y-PORT Project***

***-Transferring Yokohama's Experiences -***



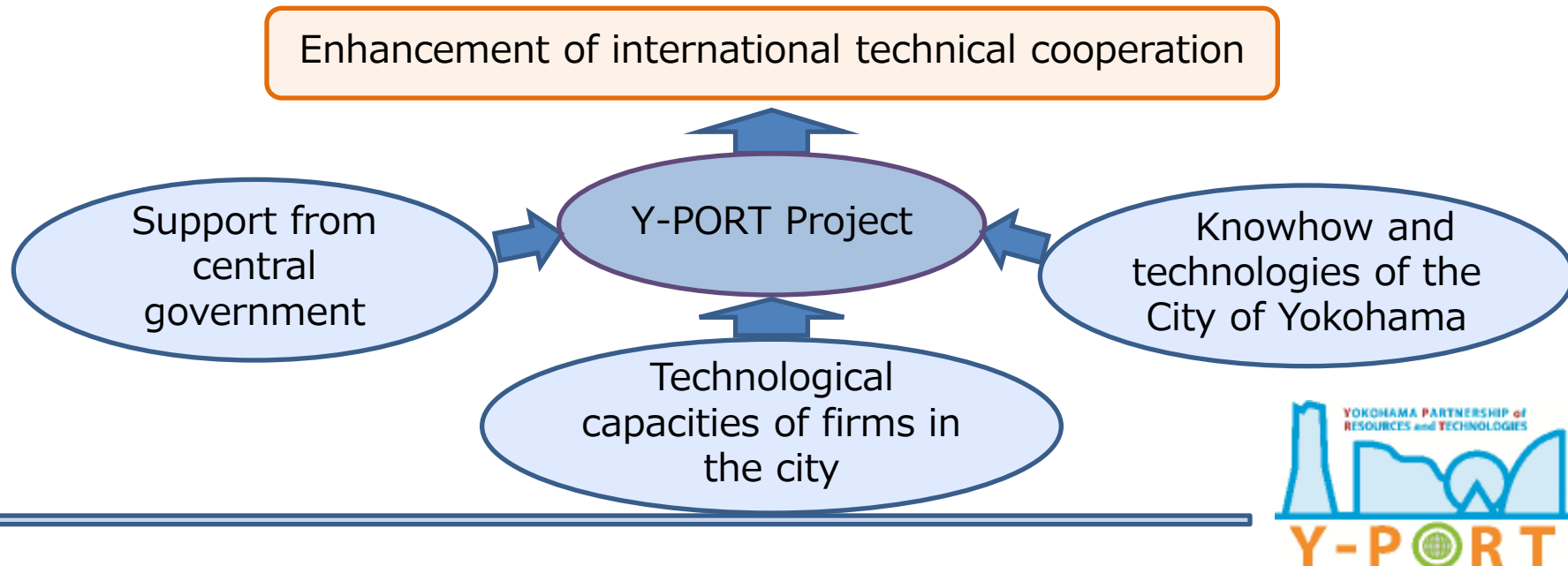


# Yokohama's International Technical Cooperation (What is Y-PORT?)

## Yokohama Partnership of Resources and Technologies

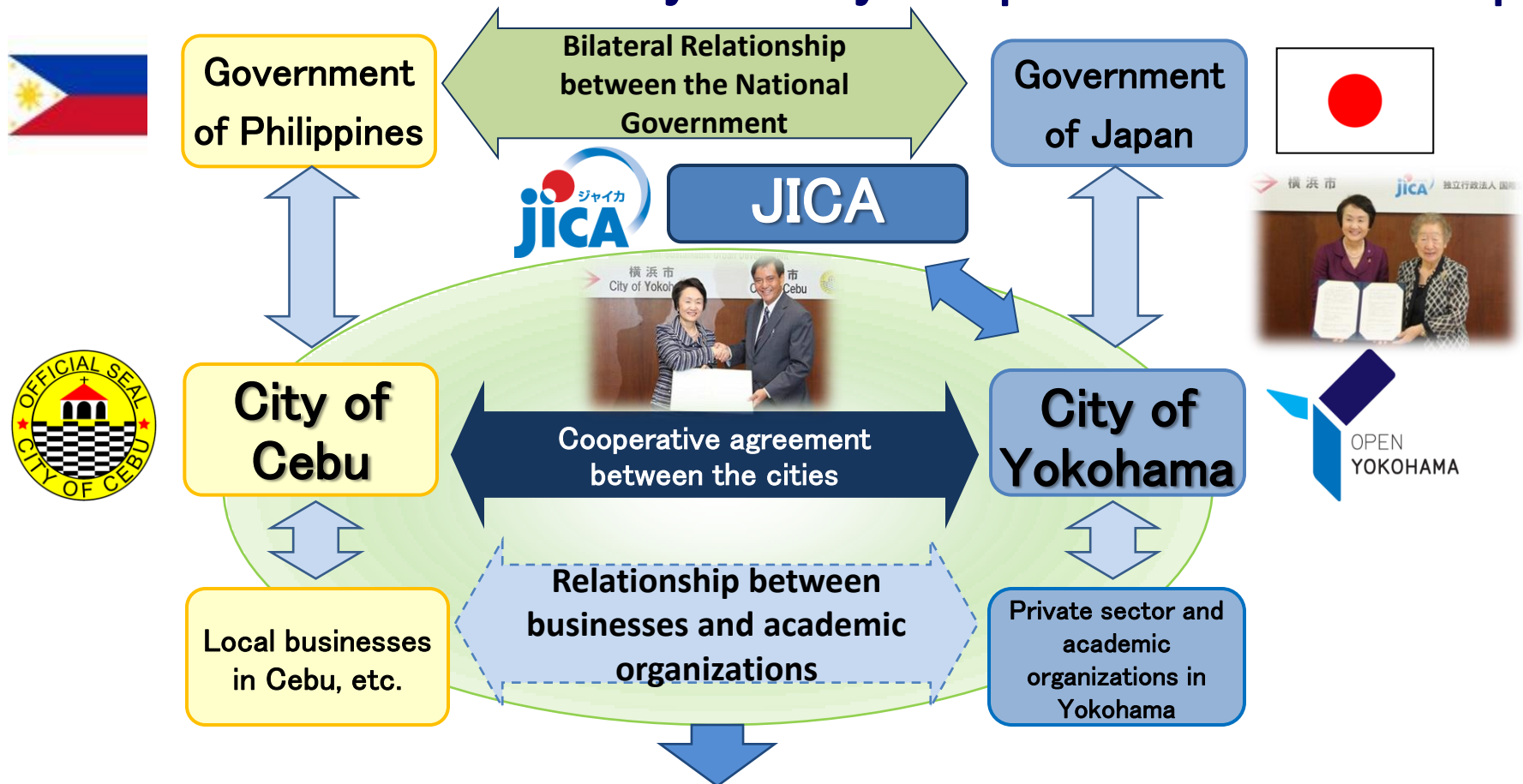
International technical cooperation based on public-private partnership and drawing on the resources and technology of Yokohama

- It is essential to provide not simple products but solutions through combining technologies and knowhow of the public and private sectors



# City to City's Cooperative Relationship

## Activities based on the City to City Cooperative Relationship



Supporting the City of Cebu's Urban Development Efforts through Public-Private Partnerships  
-Beginning dialogs through public-private partnerships in order to resolve urban issues-

SHIP of  
NOLOGIES

Y-PORT

# PARTICIPATIVE PROCESS FOR MEGA CEBU 2050

## Vision Statement and Attributes



### 13 LGU Consultancy Meetings



## Cities Comparison Best Practices



## SWOT Analysis with Stakeholders

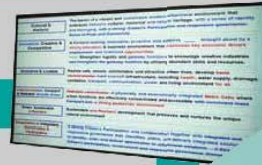
[illegible]

	Helpful To achieve objectives	Harmful To achieve objectives
Internal Origin	<b>S</b> Strengths	<b>W</b> Weakness
External Origin	<b>O</b> Opportunities	<b>T</b> Threats

## Steering Committee



## First WS (Visioning)



## Consultancy Meeting



## Second WS (Validation)

**Endorsement**  
MCD CB Mar 20

## Next Phase ....

CONSULTANCY Meetings:

- SUBCOM Meetings
- ARENA 7
- Business Leaders
- Civil Society Leaders

## 2050 Statistical Forecasts



City of Yokohama  
Development  
Experience

## LGU Presentations on Development challenges



# BMA established the Implementation structure

## Steering Committee

- To provide overall guidance, and review to the activities of drafting a Master Plan and capacity development in policy aspect, as a mechanism of PDCA (Cycle of the Project)
- To receive report on the progress of project activities periodically by the Working Group

## Working Group

- To discuss technical matters related to drafting a Master Plan and capacity development activities, based on works by the 5 Task Forces
- To coordinate and ensure consistency and integration of work across the 5 Task Forces



## JICA Expert Team

## BMA Secretariat

- Core of overall coordination. Coordinates inter-departmental work, including reporting process
- Propose activities on knowledge development of climate change
- Focal point for external communication

## Local consultants

- Support for data collection and calculation etc

### Transport Task Force

### Energy Task Force

### Waste & Wastewater Task Force

### Urban Green Planning Task Force

### Adaptation Task Force

- Collect activity data / information related mitigation and adaptation
- Propose mitigation and adaptation actions
- Conduct outreach activities in respective sectors etc

### Domestic counterpart

### Domestic counterpart

### Domestic counterpart

### Domestic counterpart

### Domestic counterpart

- Based on discussion by the Steering Committee, domestic counterparts are invited to collaborate with respective BMA department, regarding data collection, outreach etc (working level officials are expected)

# Urban Development Platform in Danang City (Draft)



- ◆ Put more significance on City to City (peer to peer) collaboration in addition to bilateral collaboration
- ◆ Support by "Team Japan" to create core regional urban node for industry and logistics
- ◆ Creating a new business model for holistic Japanese ODA urban development support utilizing Japanese city's knowledge and expertise and to be applied to other Asian cities

## Urban Development Agenda of Danang

**Introduction of new development scheme such as PPP modality**

**Emerging urban issues due to rapid population expansion**

- Active land development
- Integration of transportation to urban Development (TOD)
- Lack of key logistic infrastructure as regional hub
- Environmental degradation
- Holistic coordination needs for various infrastructure sectors

**Need for Coordination to formulate infrastructure projects in accordance to urban physical development pattern**

## Danang Urban Development Forum

(to be established in 2014)

### ◆ Knowledge Sharing of Yokohama Urban Development

- Urban development experiences such as key six pillar projects, local regulation and guidance, etc.
- Formulate action plans to materialize DaCRISS
- Participation and collaboration with civic society
- Coordinating with central government agencies and other stakeholders for infrastructure development
- Introducing unique local ordinances and other guiding measures, etc.

### ◆ PPP Workshop

- Mobilize private sectors and discuss public sector performance undertakings

### ◆ Capacity Development

- Training for Danang PC and professional training for environmental technology etc.

### ◆ Presentation by Technologies and Ideas by Private Sector

### ◆ Appropriate Technical Specification for Infrastructure

- Discussion on appropriate technical specification among public and private sectors
- Enhancing competitive advantages for Japanese firms

## Expected Impacts

### Bring Urban Solutions

—Take advance actions and creating urban solution model for Vietnam—

- Integrated urban development with advice from the City of Yokohama (Holistic integration of public transportation, industry estate and residential development)
- Environmental protection (air, soil, water)
- Transportation development and introduction of public transportation measures
- Providing better urban environment, infrastructure investment opportunities, and promoting foreign direct investment

### Identifying Danang as Strategic Growth Areas for Urban and Infrastructure Development through PPP

- Prioritized development for large scale infrastructure development through ODA loans
- Flexible introduction and adaptation of PPP measures
- Establishing appropriate appraisal procedures to introduce advanced environment technologies through PPP modality

Danang People's Committee, City of Yokohama, JICA,  
Central Government Agencies of Vietnam, private sectors  
Other development agencies such as ADB, World Bank, etc.

# Toward Promoting Collaboration with Asian Cities

## Through Active Cooperation with Aid and International Organizations and Private Sector Participation

- Providing Yokohama City's experience of urban development through masterplan formulation.
- Holding international conferences to share knowledge and know-how of participating cities ⇒ Asia Smart City Conference.
- Encourage mutual dialogues through official visits and training programs



PARTNERSHIP of  
TECHNOLOGIES



# Sharing the Best Practices

## Asia Smart City Conference

The occasion where Asian cities and donors come across

**Date : October 30th, 2014**

**Organizer: City of Yokohama**

**Participants in this year**

**Cities (22):**

Angkor heritage area, Bangalore, Bangkok, Cebu City, Cebu Province, Colombo, Compostela, Da Nang, Danao, Dhaka North, Dhaka South, Hai Phong, Ho Chi Minh, Kien Giang Province, Kitakyushu, Makassar, Naga, Phnom Penh, San Fernando, Seberang Perai, Vientiane, Yokohama

**International Organizations and Ministries:**

ADB, C40, Fundación Metrópoli, IGES, JICA, MOE, MOFA, WRI (World Resource Institute)



# ***Creative Innovative Urban Solutions***





# Collaboration with Private firms in Yokohama City



AMCON INC.



Yokohama Water Co., Ltd.



Discussion between Private firms from Yokohama, MCD CB and the City of Yokohama, June, 2013

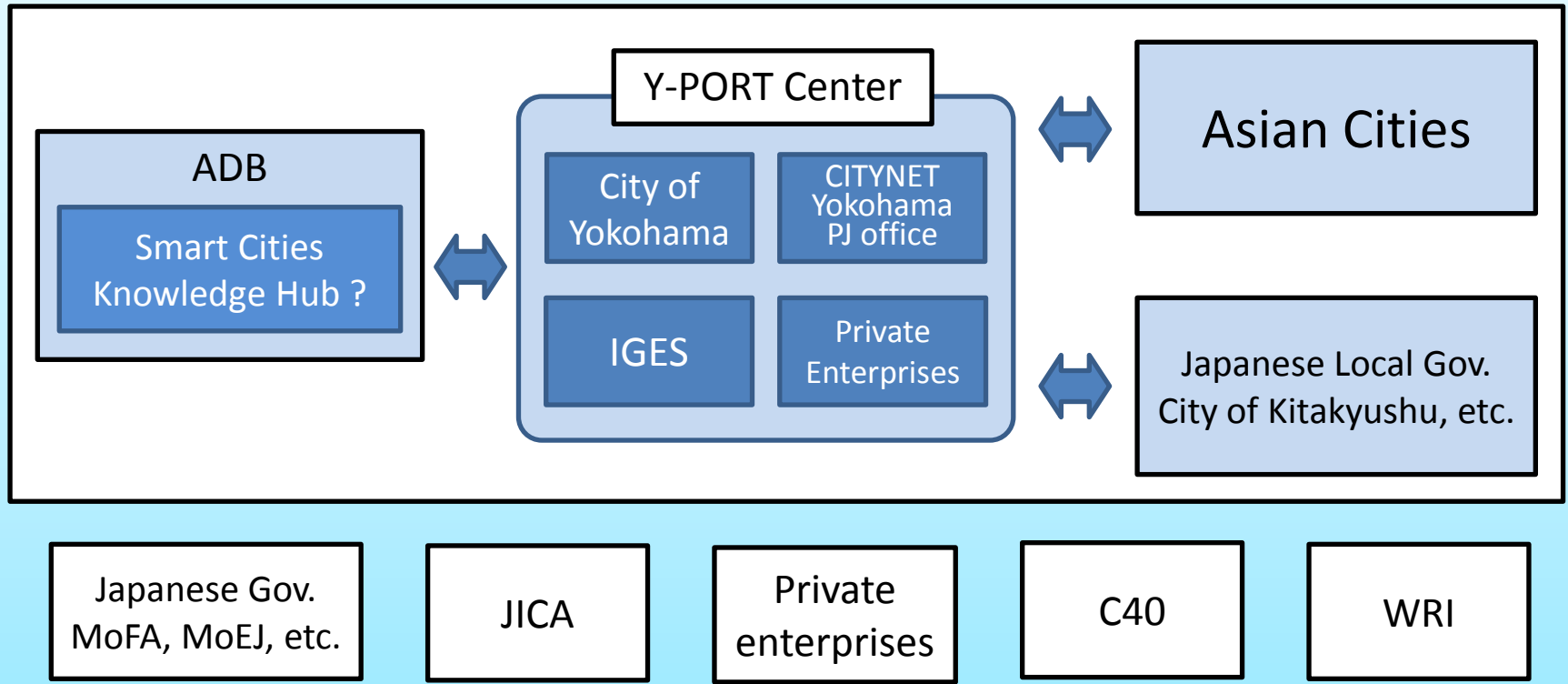


Mansei Recycle Systems Co., Ltd.

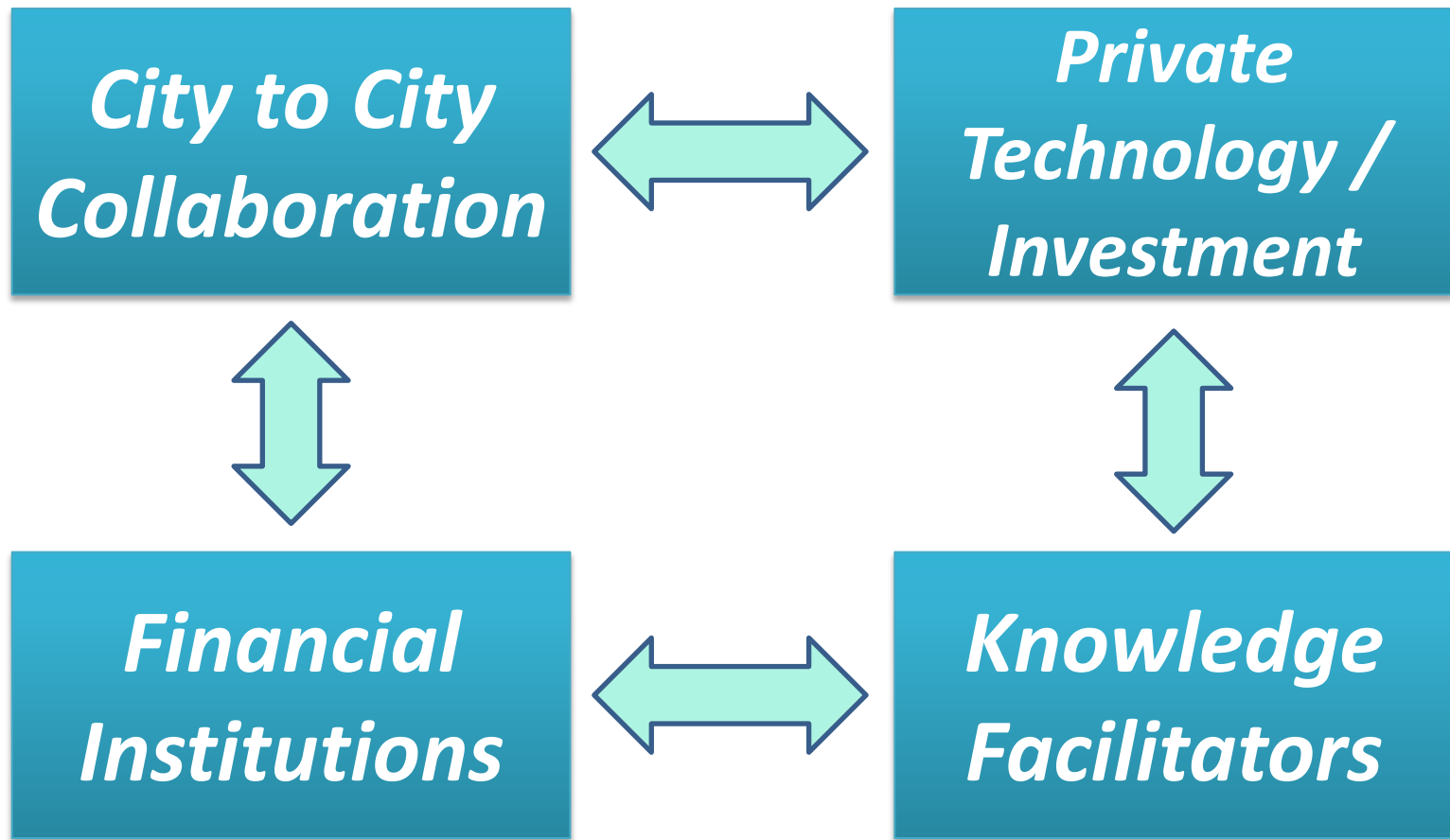
UYENO GREEN SOLUTIONS LTD.



# Asia Smart City Network



- *Sharing knowledge about the effectiveness of "City to City collaboration on sustainable urban development".*
- *Discussing measures to create and strengthen competitiveness of the city by using visioning and planning processes and new technologies.*
- *Discussion with donors, about policies and methodologies to encourage collaboration among cities through donors' resources and networks.*



# Why Yokohama?

- Solid Achievement: Livable, Sustainable, Vibrant, and Culturally Rich City Development
- Continuous Social Innovation
- Yokohama is not Tokyo, London, Paris, Singapore nor New York: Secondary and Edge City
- Leadership and Full Collaboration by Stakeholders: Direction from Mayor and People centered approach
- Will to Share and Lead: Y-PORT
- Potential for Robust Partnership: including leading private sector firms



For Smarter Cities, For a Smarter Earth

