

**From Kansai to East Asia  
Initiatives to Promote B2B Partnerships in  
Environmental and Energy-saving Technologies**

**Report on the Activities of the Kansai-Asia  
Environmental and Energy Saving Business  
Promotion Forum (Team E-Kansai)**



**February 2015  
Global Environment Centre Foundation (GEC)**


# Overview of the Global Environment Centre Foundation (GEC)



- ✿ Programs:
  - (1) Supporting the activities of the United Nation Environment Programme (UNEP) International Environmental Technology Centre (IETC)
  - (2) Offering technical cooperation and other assistance to developing nations in the areas of environmental conservation and measures to address global warming
- ✿ Date of founding: January 28, 1992
- ✿ Responsible ministries: Ministry of Foreign Affairs, Ministry of the Environment
- ✿ Locations
  - Headquarters: Ryokuchikoen, Tsurumi-ku, Osaka
  - Tokyo Office: Bunkyo-ku, Tokyo

## Principal GEC programs

- ✿ UNEP IETC projects
- ✿ City-to-City Cooperation Projects for developing Low-Carbon societies in Asia
- ✿ Projects promoting business exchanges with developing nations in the areas of environmental and energy-saving technologies
- ✿ Secretariat for the JCM Feasibility Study Programme and the JCM Financing Programme under the commission of the Ministry of the Environment, Japan
- ✿ JICA training in environment-related fields, etc.



# Report on the Activities of the Kansai-Asia Environmental and Energy Saving Business Promotion Forum (Team E-Kansai)



*Team E-Kansai*



# What Is Team E-Kansai?

- ☆ Team E-Kansai consists of about 150 companies and organizations that possess exceptional environmental and/or energy-saving technologies and wish to develop their businesses in Asia (including companies outside the Kansai region).
- ☆ Member companies and organizations possess a variety of sophisticated technologies in fields such as water treatment, waste treatment and disposal, prevention of air pollution, and energy conservation.
- ☆ Team E-Kansai combines technologies from member companies to offer optimal solutions for issues in developing nations.
- ☆ The secretariat and local coordinators work together to support forum activities.
- ☆ A total of 29 public organizations support these activities, including JETRO, JICA, and local governments.



# History of Solving Environmental and Energy-saving Issues and Environmental Technologies in Japan and the Kansai Region

Economic development and industrialization led to serious environmental problems such as water and air pollution and waste disposal challenges.

1960s

Water pollution



Air pollution



Waste



Environmental problems have been overcome as experience and technology are accumulated through partnerships between government and the private sector.

Today



Energy conservation

1970s: Two oil crises (1973, 1978)

Development of additional energy-saving technologies

Aggressive development of energy-saving technologies

Realization of one of the world's most energy-efficient industrial structures

Climate change

# Makeup of Team E-Kansai

## **Kansai-Asia Environmental and Energy Saving Business Promotion Forum (Team E-Kansai)**

**Founded: November 2008**

**Chairman: Minoru Furukawa  
(Chairman and CEO, Hitachi Zosen Corporation)**

**Deputy chairman companies: Kubota Corporation; Kobelco Eco-Solutions Co., Ltd.; Rematec Holdings Corporation**

**Number of member companies and organizations: About 150 (as of January 2015)**

**Secretariat  
Kansai Bureau of Economy,  
Trade and Industry  
Global Environment Centre  
Foundation (GEC)**

### **Supporting/cooperative organizations (29)**

**Overseas development support organizations**  
JETRO, NEDO, HIDA, JICA, Organization for Small & Medium Enterprises and Regional Innovation, JBIC, NEXI, PREX, Japan-China Economic Relations and Trade Centre, Japan-China Economic Association

### **Regional economic groups and related organizations**

Kansai Economic Federation; Osaka Chamber of Commerce and Industry; Global Environment Forum Kansai; The Japan Society of Industrial Machinery Manufacturers; The Energy Conservation Center, Japan; Sakai International Business Council; Wakayama Industry Promotion Foundation; APEC Virtual Center for Environmental Technology Exchange; Hyogo Environmental Advancement Association

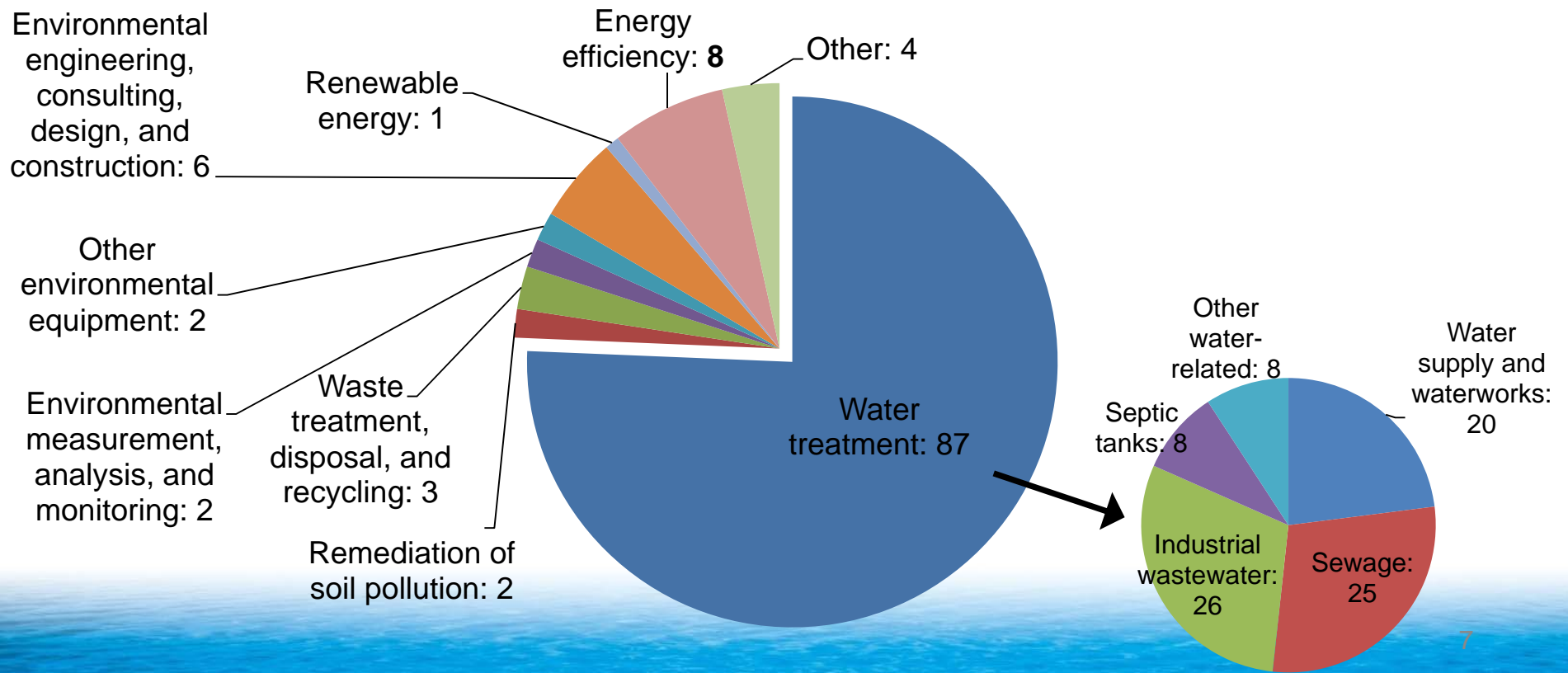
### **Local governments and other organizations**

Osaka Prefectural Government, Osaka City Government, Osaka Water & Environment Solutions Associations, Kyoto Prefectural Government, Wakayama Prefectural Government, Shiga Prefectural Government, Shiga Water Environment Business Promotion Forum, Kobe City Government



# Principal Technologies of Team E-Kansai Member Companies

Member companies possess a wide variety of technologies in areas ranging from water treatment to waste treatment, disposal, and recycling and energy.



# Providing Solutions to Address Environmental Issues

Team E-Kansai has built a network of companies in an effort to meet the full range of environmental needs by providing systematic solutions that combine multiple technologies in an optimal manner.

## Wastewater issues



### Wastewater treatment

- Filtration technologies
- Production of ultra-pure water
- Measurement of water quality
- Remote monitoring systems
- Excess sludge treatment
- Filter press dewatering

## Waste issues



### Waste treatment and disposal

- Cement raw material/fuel production
- Slag modification
- Melting furnaces
- Incinerators
- RPF and RDF production
- Methane recovery systems

## Air pollution



### Preventive measures

- Particulate matter monitoring
- Exhaust gas prevention systems
- Dioxin heat decomposition
- Detoxification processing
- Cleaning systems
- Concentration measurement

Advanced technologies by Kansai companies 8



# Team E-Kansai Activities

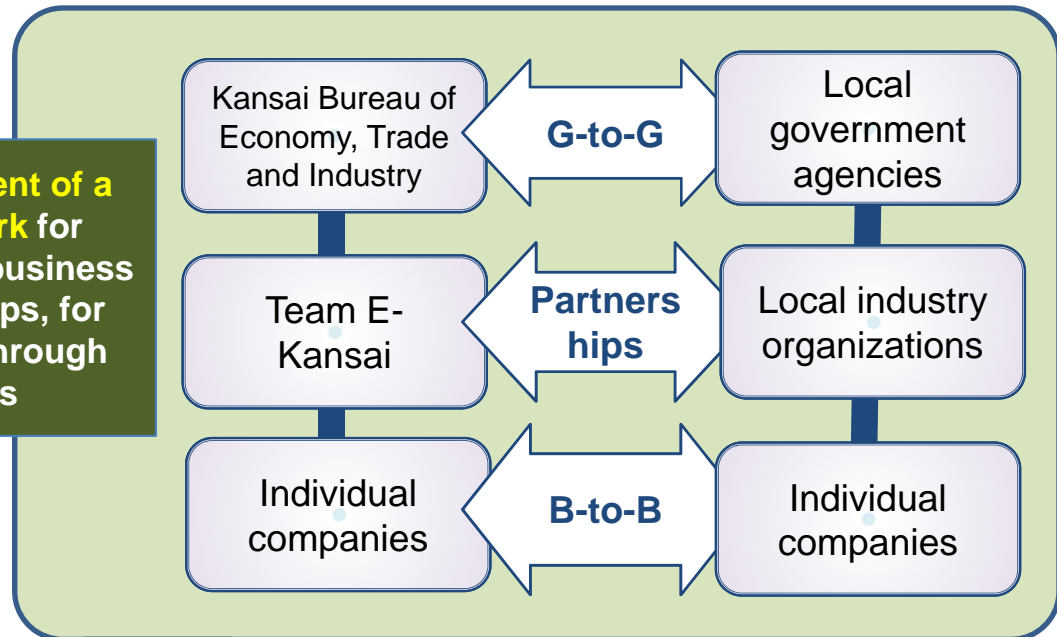
Priority regions: Thailand, Vietnam, China (Liaoning Province and Guangdong Province)  
In the future, we are planning to add Indonesia and the surrounding area.

**Matching assistance,**  
By sending and receiving delegations, participating in exhibitions, holding business matching meetings, etc.

Exclusive coordinators are assigned to each region.

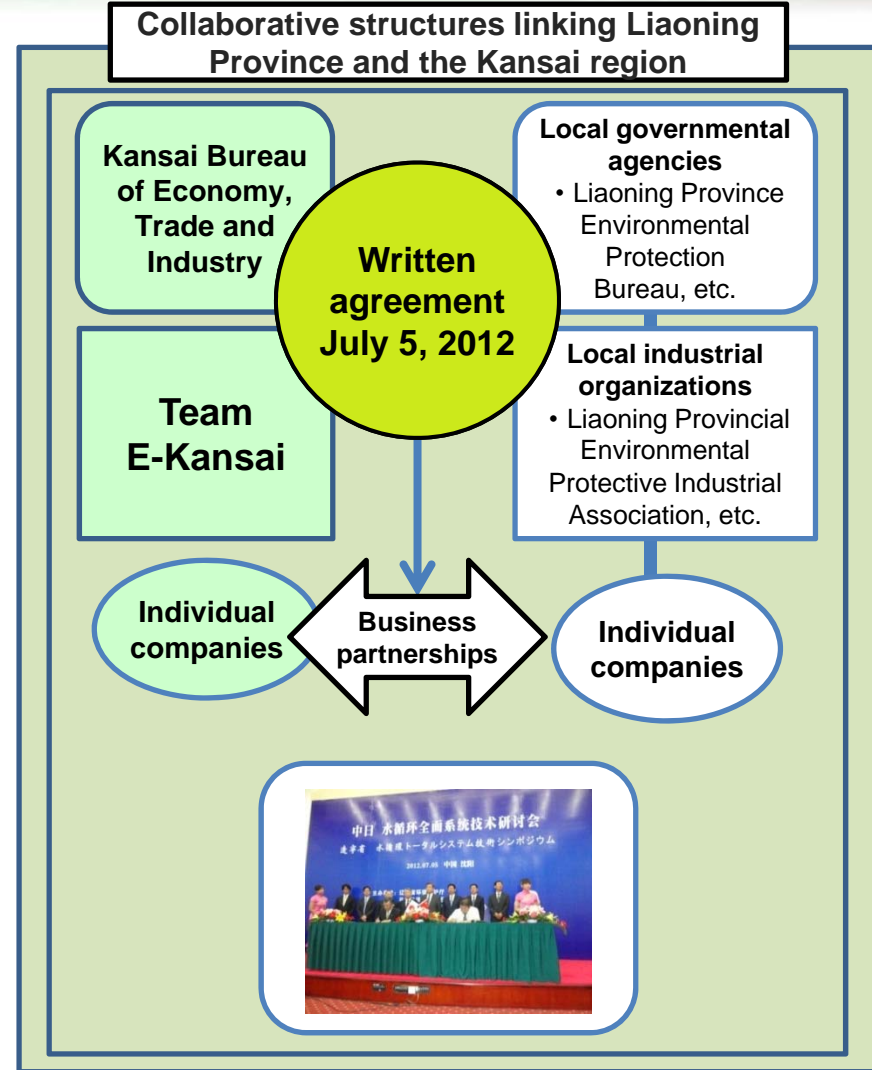
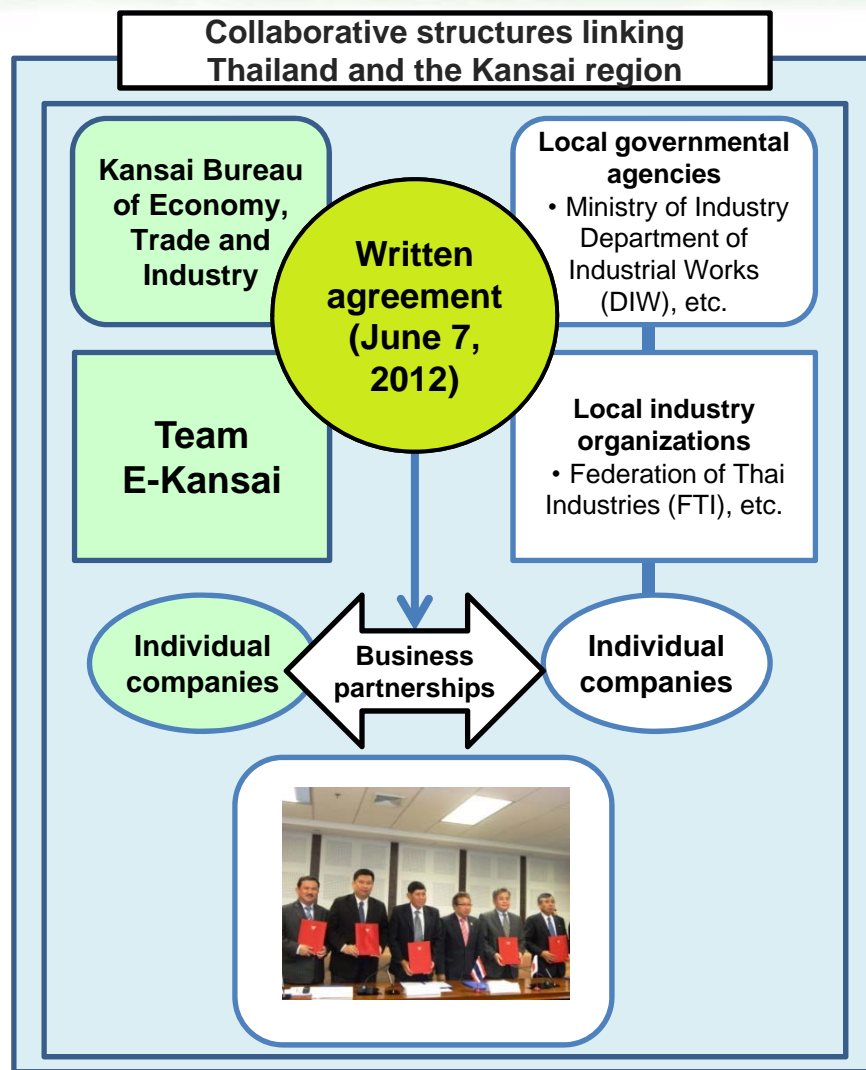
**Development of a framework** for promoting business partnerships, for example through MOUs

**Assistance for developing projects based on system proposals**



**Development of an advance success model**      **Development of networks** to facilitate sustained, autonomous business partnerships      **Improvement of the local business environment**

# Developing Collaborative Structures to Facilitate Sustained Businesses with Partner Countries



Similar frameworks are being developed in Vietnam and in the Nanhai district of the city of Foshan in Guangdong Province, China.

# Sending Delegations to Asia, Holding Seminars, and Participating in Overseas Exhibitions

## Major recent activities

### Team E-Kansai Participating in “Viet Water 2014” (November 2014)

- To support Japanese companies participating in Viet Water 2014, Team E-Kansai joined the Osaka Chamber of Commerce and Industry and Shiga Prefecture in staffing a joint booth.
- **TMG** E-Kansai facilitated a technological presentation by 25 Japanese companies during the event (which attracted 300 participants).



### Holding the “Shanghai-Osaka Energy Saving Technology Seminar” in Shanghai (October 2014)

- Team E-Kansai co-hosted an energy saving technology seminar with Osaka Prefecture’s Shanghai Office.
- At the event, four Japanese companies joined four Chinese companies in introducing energy-saving initiatives. (The event attracted about 100 participants from Japan and China.)



### Sending a delegation to the Nanhai district of the city of Foshan in Guangdong Province (March 2014)

- Team E-Kansai sent a delegation of 23 people from 9 member companies and 2 support organizations to Foshan, China, and held a series of business matching sessions in the area.
- The Kansai Bureau of Economy, Trade and Industry joined the Nanhai district government, Team E-Kansai, and the local environmental protective industrial association in entering into a written agreement.
- Team E-Kansai co-hosted a Guangdong Province energy-saving seminar in the city of Guangzhou with the Japan-China Economic Association.





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# Developing Networks Linking Members (Hosting a Networking Cafe)

Environmental issues and energy conservation as cross-industry concerns:  
Assisting in the developing of networks linking members

## Networking Café in Osaka (July 2014)

Team E-Kansai invited its coordinators for Liaoning Province and Guangdong Province, China to participate in an exchange of views with other participants and introduce market conditions and needs in China at an event entitled “The Future of the Energy Conservation and Environmental Business in China.”



## Networking Café in Ho Chi Minh City (November 2014)

Team E-Kansai hosted a networking event with representatives of JICA Vietnam and the HCMC officials serving as speakers. A total of 70 people from companies that had exhibit or visit in the VietWater exhibition and local Japanese-owned companies in Viet Nam joined in the event.



## Networking Café In Shanghai (October 2014)



A total of 21 people including representatives of local offices of Japanese entities attended this networking event, where they exchanged views on the strengthening of environmental regulations in China.

Team E-Kansai has also held networking events for employees working locally in Shenyang, China, and Bangkok, Thailand.

# Assistance for Developing Projects Based on System Proposals

## Examples of recent approaches

- ★ **Developing a model for an environmentally friendly industrial park at the Amata Nakorn Industrial Estate in Thailand**
- ★ **Developing a model program to prevent air pollution by measuring and controlling VOCs emissions in Guangdong Province, China.**
- ★ **Proposing Vietnam eco-factory models to realize cost-effective investment for environmental improvements through a combination of investment in plant and equipment and activities in environmental improvement.**
- ★ **Undertaking a clean production and energy-saving improvement project in the aluminum industry in Guangdong Province, China**
- ★ **Delivering and conducting operational trials of a high-efficiency, energy-saving aeration system at a large-scale sewage treatment plant in Guangdong Province, China**



# Developing a Model for an Environmentally Friendly Industrial Park at the Amata Nakorn Industrial Estate in Thailand

## Issues in Thailand

1. Emergence of pollution as a problem in local communities, for example due to illegal dumping of waste
2. Initiatives to promote the 3Rs and recycling of waste (use of waste as a raw material in the cement industry, etc.)
3. Energy conservation and effective use of energy in industrial parks, etc.

2009

Baseline investigation prior to the cooperative development of an eco-town (fiscal 2009)

Selection of the Amata Nakorn Industrial Estate, Thailand's largest industrial park



2013

Written agreement on cooperation among the Ministry of Industry's Department of Industrial Works, Amata, and the Kansai Bureau of Economy, Trade and Industry (September 2010)

Written agreement on further cooperation among the Ministry of Industry's Department of Industrial Works, the Industrial Estate Authority of Thailand, Amata, the Kansai Bureau of Economy, Trade and Industry, and Team E-Kansai with the goal of developing one-stop service (June 2012)

Feasibility study targeting the development of a model for an environmentally friendly industrial park at the Amata Nakorn Industrial Estate (fiscal 2010)

Research project addressing the efficient use of waste at cement plants (February 27 to March 6, 2012)

Project dispatching experts for human resources development to facilitate one-stop service (April 17 to May 11, 2012)

Pilot plant project to conduct a trial of technologies for using waste effectively at cement plants (July 2012 to May 2013)

Training project to facilitate the enhancement of optimal management of industrial waste and promote recycling (February 12 to 25, 2014)

The parties agreed to the following at a joint meeting (chaired by the director of the Ministry of Industry's Department of Industrial Works):

- (1) To promote additional methods for using waste effectively at cement plants
- (2) On the need for one-stop service in order to promote realization of a low-carbon society, the 3Rs, and a "zero landfill waste" policy

Expansion of use of waste at cement plants in Thailand



# Developing a Model Program for Measures to Prevent Air Pollution in Guangdong Province, China, (by Limiting VOC Emissions)

Member companies have formed a joint venture with local companies in the Southern China Cluster of State Environment Service Industry (in Foshan's Nanhai district) in order to pursue goals such as building a monitoring network to limit VOC emissions and implementing an activated carbon recycling business. Going forward, the joint venture plans to work with the local government to prepare for a demonstration of the model and implementation of associated regulations in the city.

Kansai Bureau of Economy,  
Trade and Industry

Written agreement on  
cooperation and resulting  
partnership

Government of the Nanhai district,  
Foshan City, Guangdong Province

Environmental Protection Bureau

Businesses emitting VOCs  
(furniture plants, etc.)

Transmission of data

Joint venture formed by  
Team E-Kansai companies  
and local companies

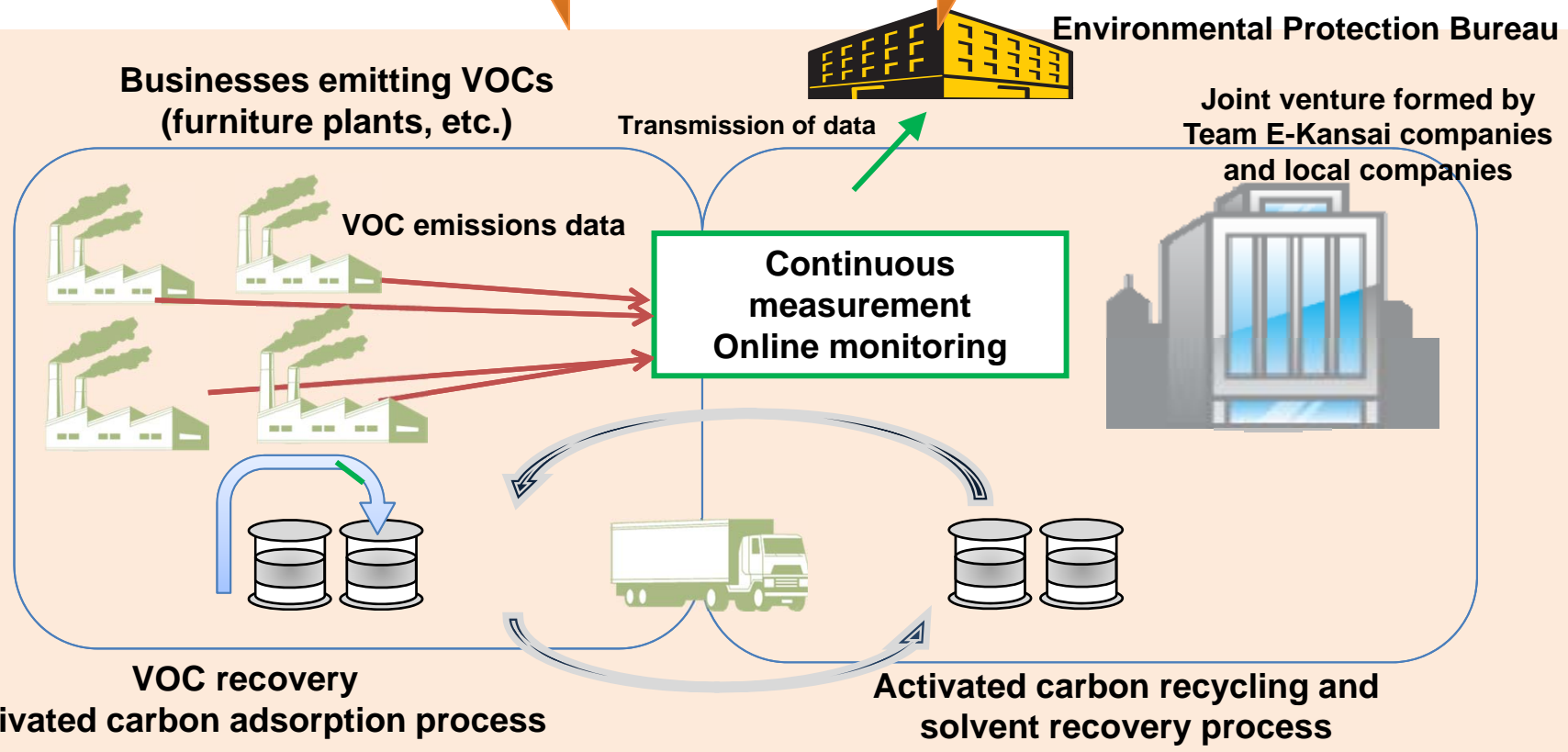
VOC emissions data

Continuous  
measurement  
Online monitoring

VOC recovery

Activated carbon adsorption process

Activated carbon recycling and  
solvent recovery process



# Proposing a Vietnam Eco-factory Model

(To realize waste-free environmental capital investment through a combination of environmental capital investment and environmental improvement activities)

Kansai Bureau of Economy,  
Trade and Industry

Partnership  
(Written agreement  
on cooperation)

Vietnam Ministry of Industry and Trade

Vietnam Ministry of Natural Resources and Environment

Assistance

Assistance

Team E-Kansai  
(Vietnam Systems and Solutions Group)

Partnership  
(Entering into  
an MOU)

Group of state-operated  
companies in Vietnam

(VBA [beer and beverages],  
VINATEX [sewn products and textiles],  
VINAPACO [paper and pulp])

## Package assistance

- (1) Provision of optimal environmental facilities and equipment that meet Vietnamese needs and assistance in improving their operational capacity (OJT)
- (2) Provision of facilities and equipment for making energy-saving improvements
- (3) Assistance in improving production processes (by dispatching experts)
- (4) Assistance in improving environmental management capacity (by training core personnel)

## Vietnam Eco-factory Model

Environmental  
capital investment

Environmental  
improvement activities

Wastewater  
treatment

Water  
treatment

Waste  
treatment and  
disposal Etc.

Environmental  
investment

Dramatic cost  
reductions  
Dramatic cost reductions

Production process  
improvements  
Productivity improvements  
such as reduced defect rates

Increased  
environmental  
management capacity Etc.

Environmental  
budget

Establishing environmental targets as  
part of companies' medium- and long-  
term business strategies

Carrying out environmental capital  
investment and environmental  
improvement activities

Allocating profit from environmental  
improvement activities to  
environmental capital investment

Implementing waste-free  
environmental capital investment

Increasing corporate group  
value and profits as Vietnam's  
first environmentally friendly  
group

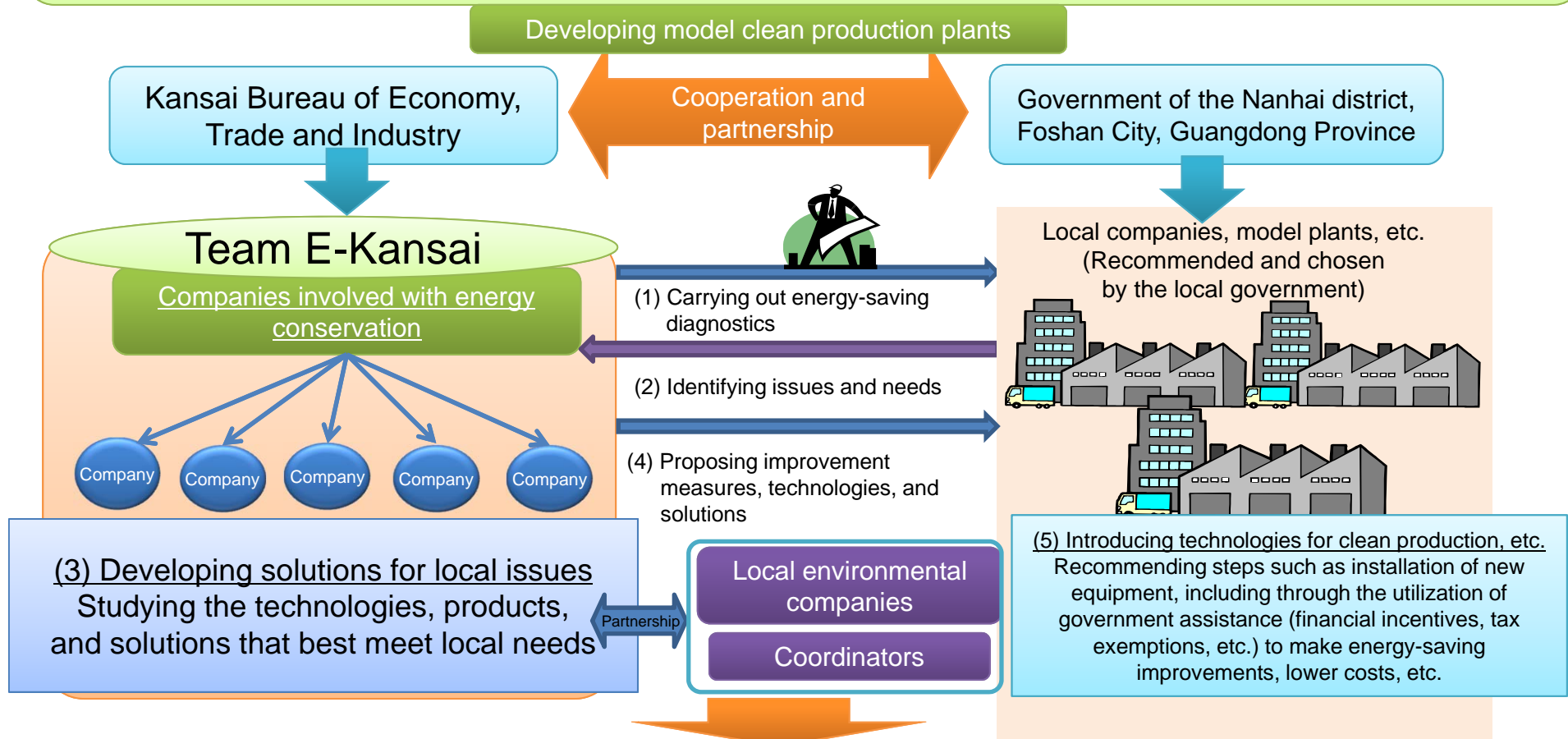
Working to popularize and expand this  
approach in the group as a success  
model for cost-effective environmental  
investment





# Undertaking a Clean Production and Energy-saving Improvement Project in the Aluminum Industry in Guangdong Province, China

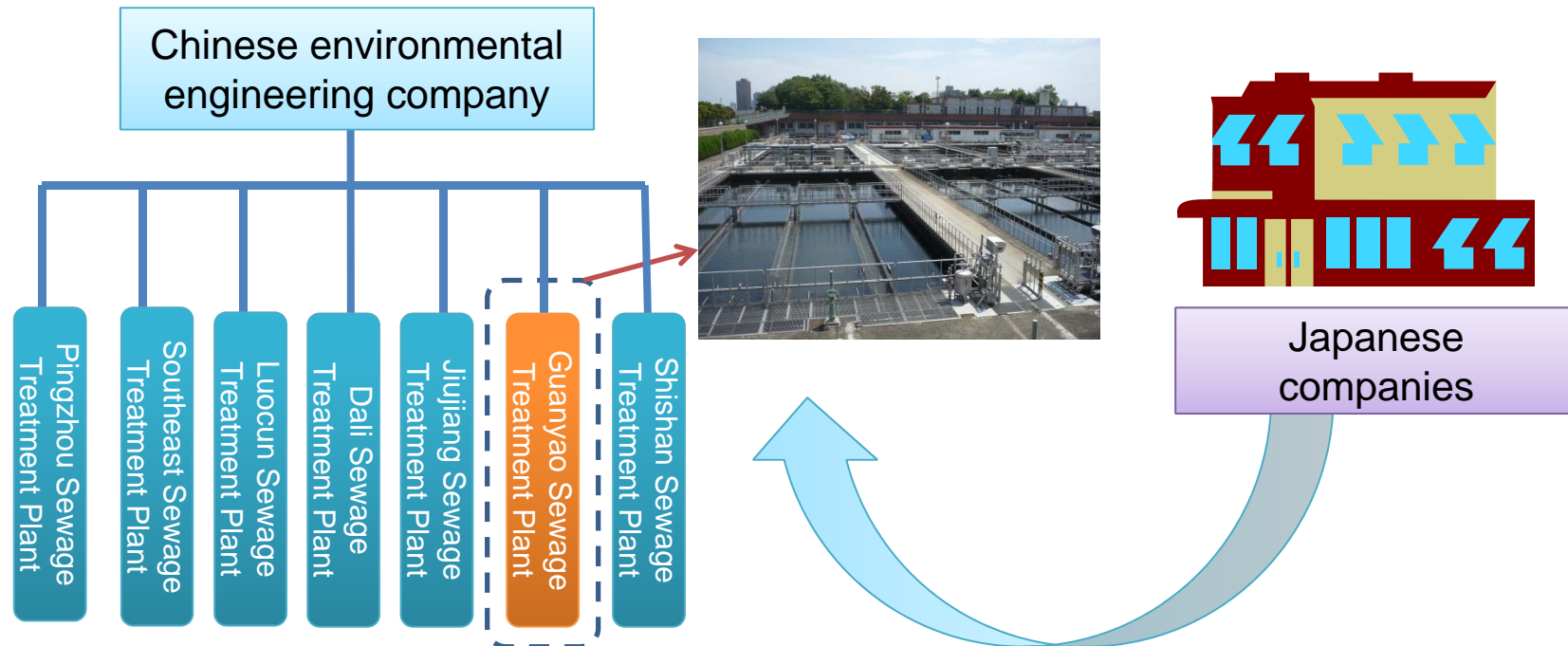
Team E-Kansai carried out an energy-saving diagnostics project by dispatching experts to aluminum casting plants chosen by the local government, and proposed improvements in energy conservation and production processes through partnerships between companies in the Kansai region and Japanese-owned companies in China. Going forward, participating companies plan to install the resulting system at model plants as part of a trial.



- The project has made proposals that are uniquely suited to the local government's need to improve clean production.
- Team E-Kansai plans to expand the project from areas such as the city of Foshan and Guangdong Province to regions throughout China.

# Delivering and Conducting Operational Trials of an Aeration System at a Large-scale Sewage Treatment Plant

Working with a large environmental engineering company with customers and contacts such as large-scale sewage treatment plants in Guangdong Province, China, Team E-Kansai delivered and conducted operational trials of a high-efficiency, energy-saving aeration system at a sewage treatment plant in the city of Foshan, which served as a test site.



The Chinese environmental engineering company chose a site from its customers' wastewater treatment plants and sewage treatment plants, and the project installed an aeration system. Initial stage: Small-scale installation experiment; second stage: medium-scale installation; third stage: across-the-board changes planned



# Providing Information to Member Companies and Overseas Partners

Team E-Kansai provides useful information for member companies' overseas businesses

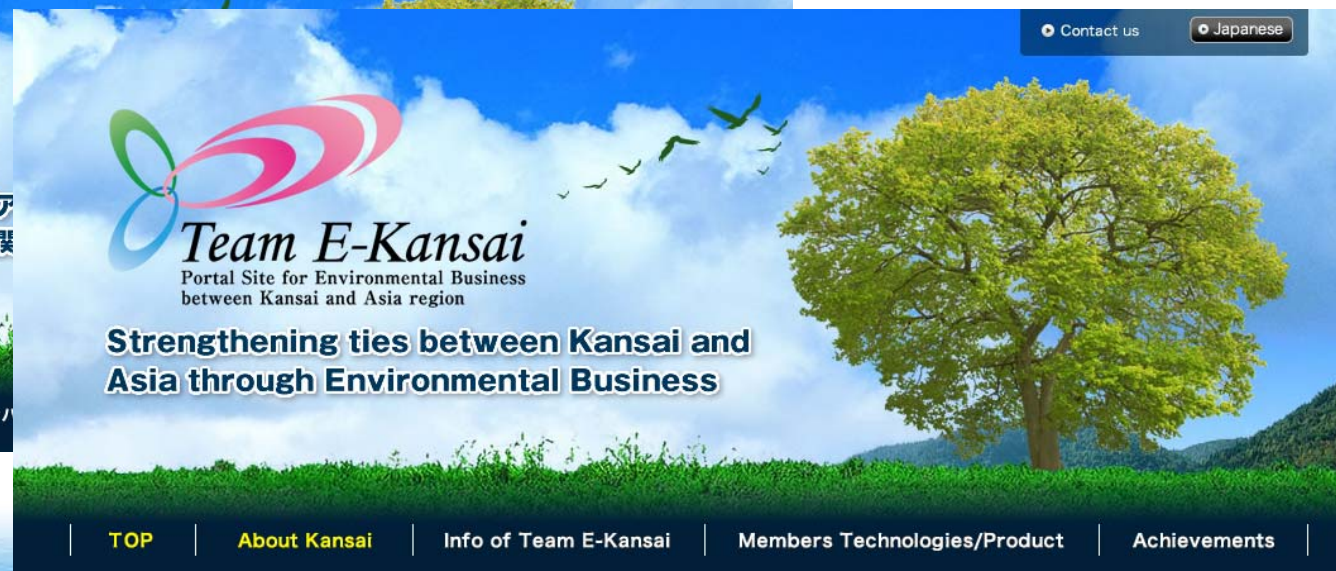
- ☆ Team E-Kansai website
- ☆ Free email newsletter (twice monthly with occasional extra editions)
- ☆ Seminars and separate study groups

Team E-Kansai also provides information to overseas partners about technologies and products available from member companies.

- ☆ Technical information sheets and pamphlets (in English and local languages)
- ☆ English-language website



<http://team-e-kansai.jp/>






## ☆For more information about Team E-Kansai

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ありがとうございました

Thank you !

谢谢！

감사합니다 !

Global Environment Centre Foundation

