Panel 6: Looking forward - Finding way to make synergies between Private Sector and the R&D Sector

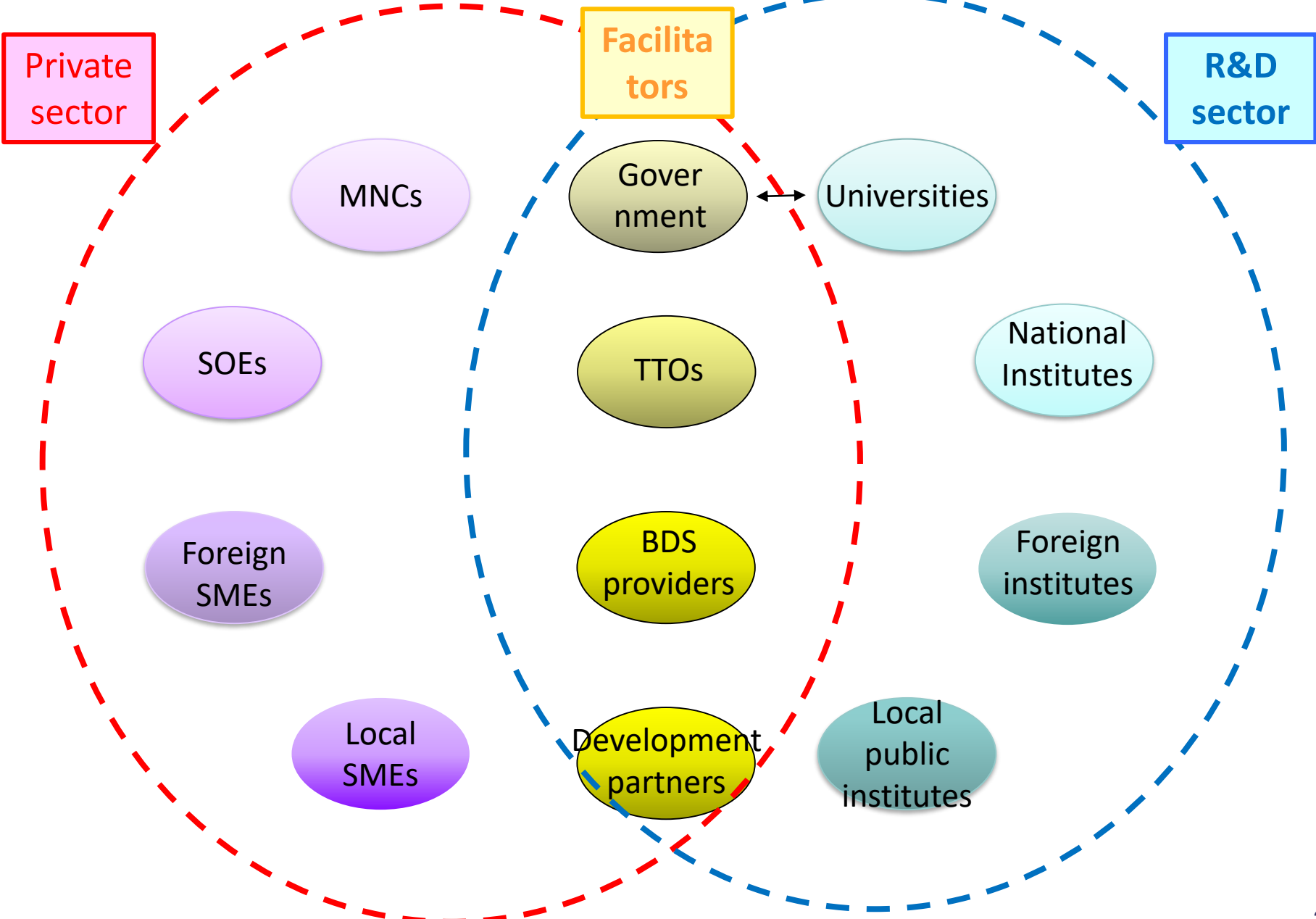## - from JICA's International Cooperation Experience -

Toru Homma

Senior Advisor on Private Sector Development
Japan International Cooperation Agency (JICA)

OIST, Okinawa, 14 November 2018

Synergies between the private sector and R&D sector
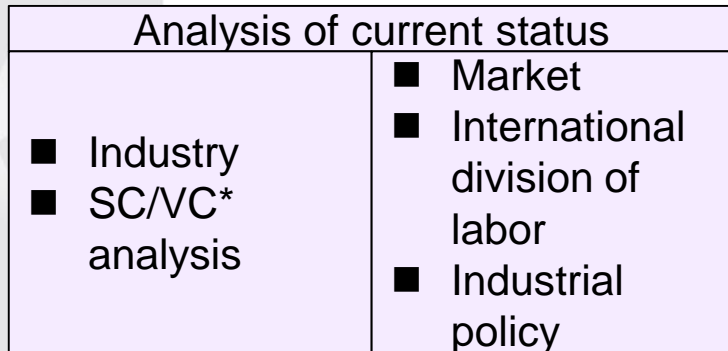
JICA

Private sector

Facilitators

R&D sector

MNCs

SOEs

Foreign SMEs

Local SMEs

Government ↔ Universities

TTOs

BDS providers

Development partners

National Institutes

Foreign institutes

Local public institutes

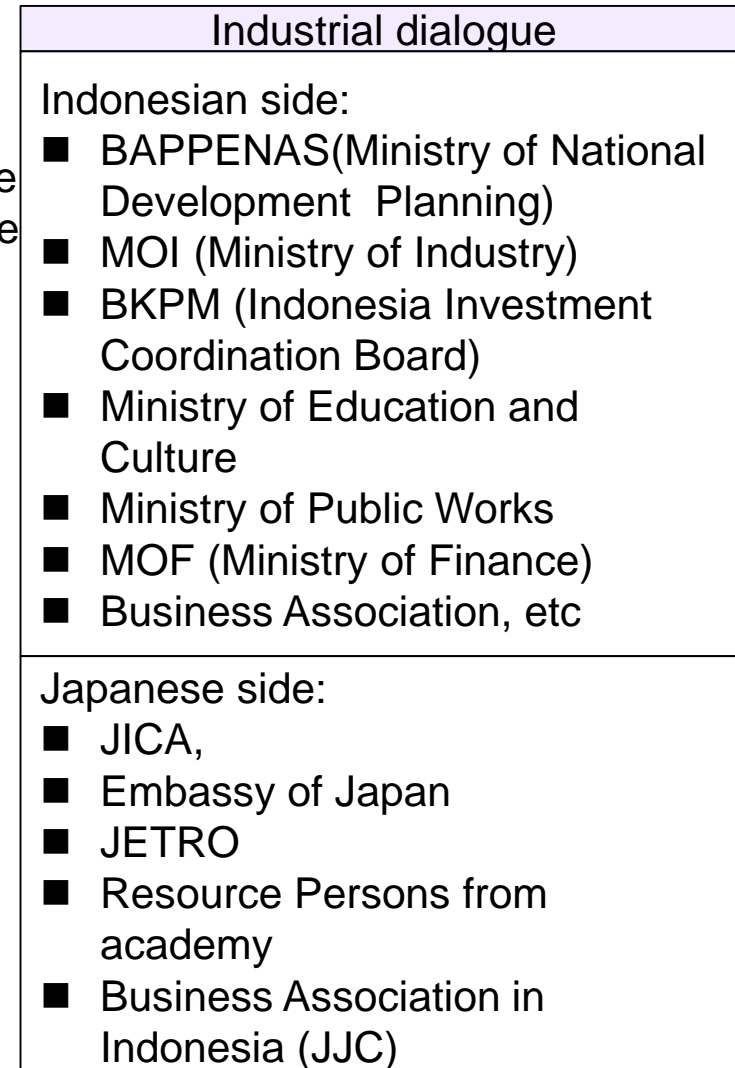# (1) Industrial Policy Dialogue (JICA in Indonesia)

Objective:

To design effective policy measures for promoting competitiveness to avoid a risk of middle income country trap and further accelerate economic growth
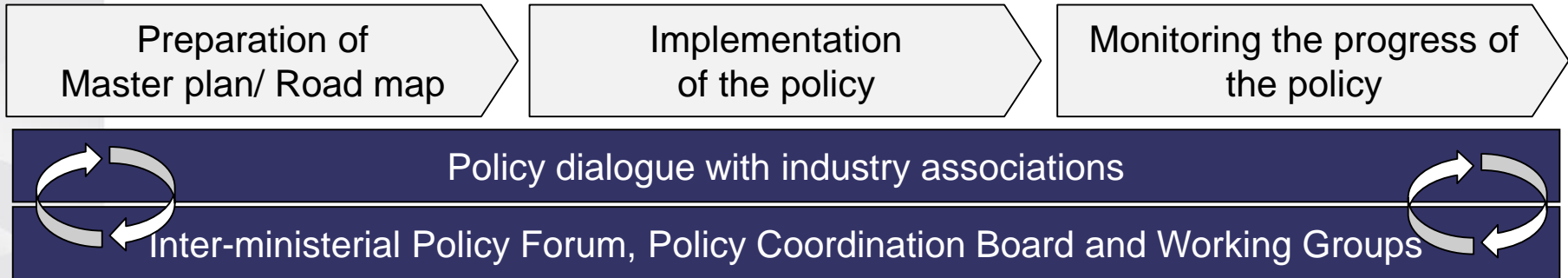
Analysis of current status

- Industry
- SC/VC* analysis

- Market
- International division of labor
- Industrial policy

*SC: Supply chain, VC: Value chain

↓

Potential/constraint of Indonesia

↓

Vision (towards 2025)

↓

Policy matrix

↓

Policy programs & measures

↓

Pilot project(s) by Inter-ministry policy council and working group

↓

Formulation of JICA cooperation project(s)

Industrial dialogue ensures relevance for Indonesian policy and implementation

⟷

Industrial dialogue

Indonesian side:
- BAPPENAS(Ministry of National Development Planning)
- MOI (Ministry of Industry)
- BKPM (Indonesia Investment Coordination Board)
- Ministry of Education and Culture
- Ministry of Public Works
- MOF (Ministry of Finance)
- Business Association, etc

Japanese side:
- JICA,
- Embassy of Japan
- JETRO
- Resource Persons from academy
- Business Association in Indonesia (JJC)

Source: JICA (2018).

(1) Industrial Policy Dialogue (JICA in Indonesia)
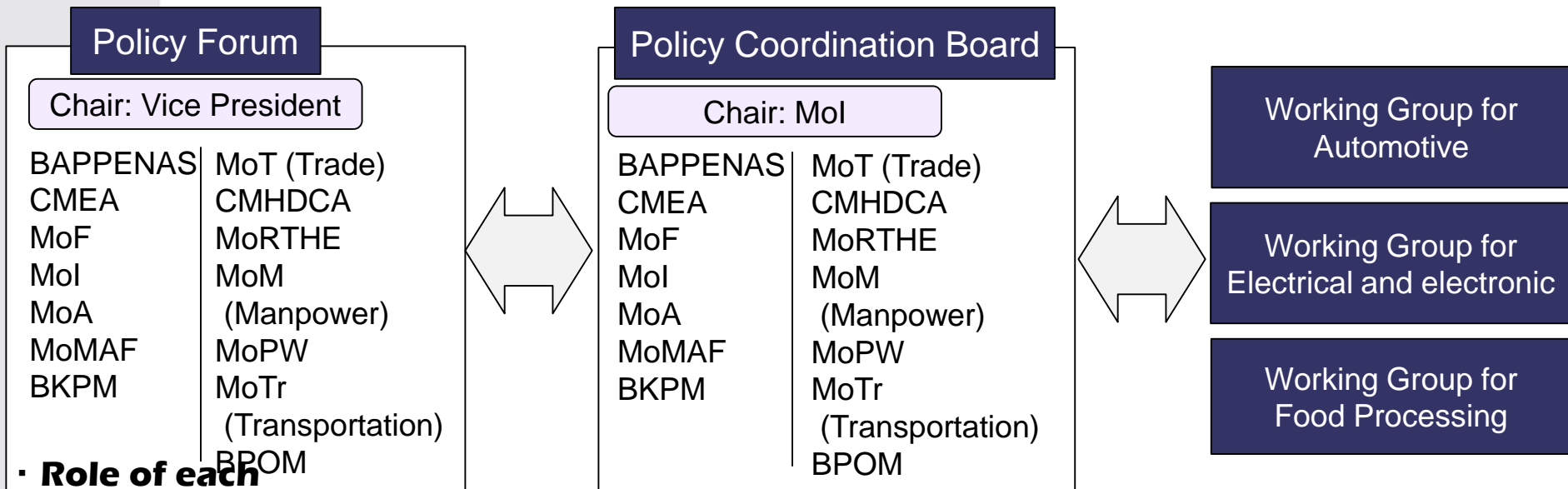
The Implementation Structure of the Policy Forum, the Policy Coordination Board and the Working Groups

・**Process**

Preparation of Master plan/ Road map	Implementation of the policy	Monitoring the progress of the policy

Policy dialogue with industry associations

Inter-ministerial Policy Forum, Policy Coordination Board and Working Groups

・**Member**

Policy Forum

Chair: Vice President

BAPPENAS	MoT (Trade)
CMEA	CMHDCA
MoF	MoRTHE
MoI	MoM
MoA	(Manpower)
MoMAF	MoPW
BKPM	MoTr
	(Transportation)
	BPOM

Policy Coordination Board

Chair: MoI

BAPPENAS	MoT (Trade)
CMEA	CMHDCA
MoF	MoRTHE
MoI	MoM
MoA	(Manpower)
MoMAF	MoPW
BKPM	MoTr
	(Transportation)
	BPOM

Working Group for Automotive

Working Group for Electrical and electronic

Working Group for Food Processing

・**Role of each board**

Decision making at the highest level	Policy coordination, prioritization,budgeting and monitoring	Policy program/projects formation, implementation and monitoring

Indonesia's Industry 4.0 (2018)

JICA's industry policy support follows this. No. 6, 8 and 9 may be relevant with the topic on synergies between business and R&D.

Ministry of Industry
Indonesia's Industry Fourth Revolution

Making Indonesia 4.0

Making Indonesia 4.0

Kementerian Perindustrian
REPUBLIK INDONESIA

Indonesia has set 10 National Priorities for "Making Indonesia 4.0"

10 National Priorities

1 Reform Material Flow
- Enhance **domestic upstream material production**; e.g. 50% of petrochemical is imported

2 Redesign Industrial Zones
- Build **a single nationwide industry zoning roadmap**; resolve zoning inconsistency challenges

3 Embrace sustainability
- Grab **opportunities under global sustainability trend**; e.g. EV, biofuel, renewables

4 Empower SMEs
- Empower **3.7 million SMEs[1] by technologies**; e.g. build SME e-commerce, technology bank

5 Build Nationwide Digital Infrastructure
- Advance **network and digital platform**; e.g. 4G to 5G, Fiber speed 1Gbps, Data center and Cloud

6 Attract Foreign Investments
- Engage **top global manufacturers** with attractive offer and accelerate **technology transfer**

7 Upgrade Human Capital
- Redesign **education curriculum** under 4IR era
- Create professional **talent mobility program**

8 Establish Innovation Ecosystem
- Enhance **R&D centers** by government, private sector and universities

9 Incentivize Technology Investment
- Introduce **tax exemption/subsidies** for technology adoption and **support funding**

10 Reoptimize Regulations & Policies
- Build more **coherent policies/regulations** by **cross-ministry collaborations**

1. Including micro enterprises
Source: Ministry of Industry, A.T. Kearney

Indonesia's Industry 4.0 (2018)

Government, industry and academy are to be coordinated.

Ministry of Industry
Indonesia's Industry Fourth Revolution

Making Indonesia 4.0

Kementerian Perindustrian REPUBLIK INDONESIA

"Making Indonesia 4.0" policy needs to be properly coordinated with several stakeholders and policies
"Making Indonesia 4.0" implementation governance

President

Industry (4.0) Committee — **New**

KOMITE EKONOMI DAN INDUSTRI NASIONAL REPUBLIK INDONESIA *or* KANTOR STAF PRESIDEN

10 National Priorities: 1 2 3 4 5 6 7 8 9 10

5 Focus Sectors: Food & Beverage | Textile & Apparel | Automotive | Electronics | Chemical

Members

Government: MoI | MoF | MoManpower | MoTrade | MoInfocom | National Planning | MoResearch | National R&D Agency

Industry[1]: ASTRA international | Sales | Chandra Asri | Indofood

Educational[1]: UNTAR | UNIVERSITAS INDONESIA

1. Illustrative. Not exhaustive and not representative of final stakeholder cohort.
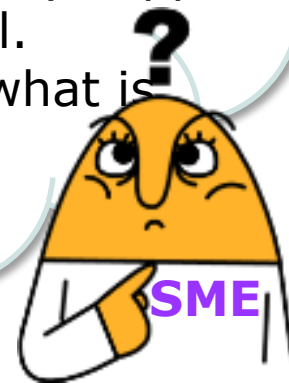Source: A.T. Kearney

6

Concept - 1
SME support service delivery (as-is)

Knowledge

Program

Service counter
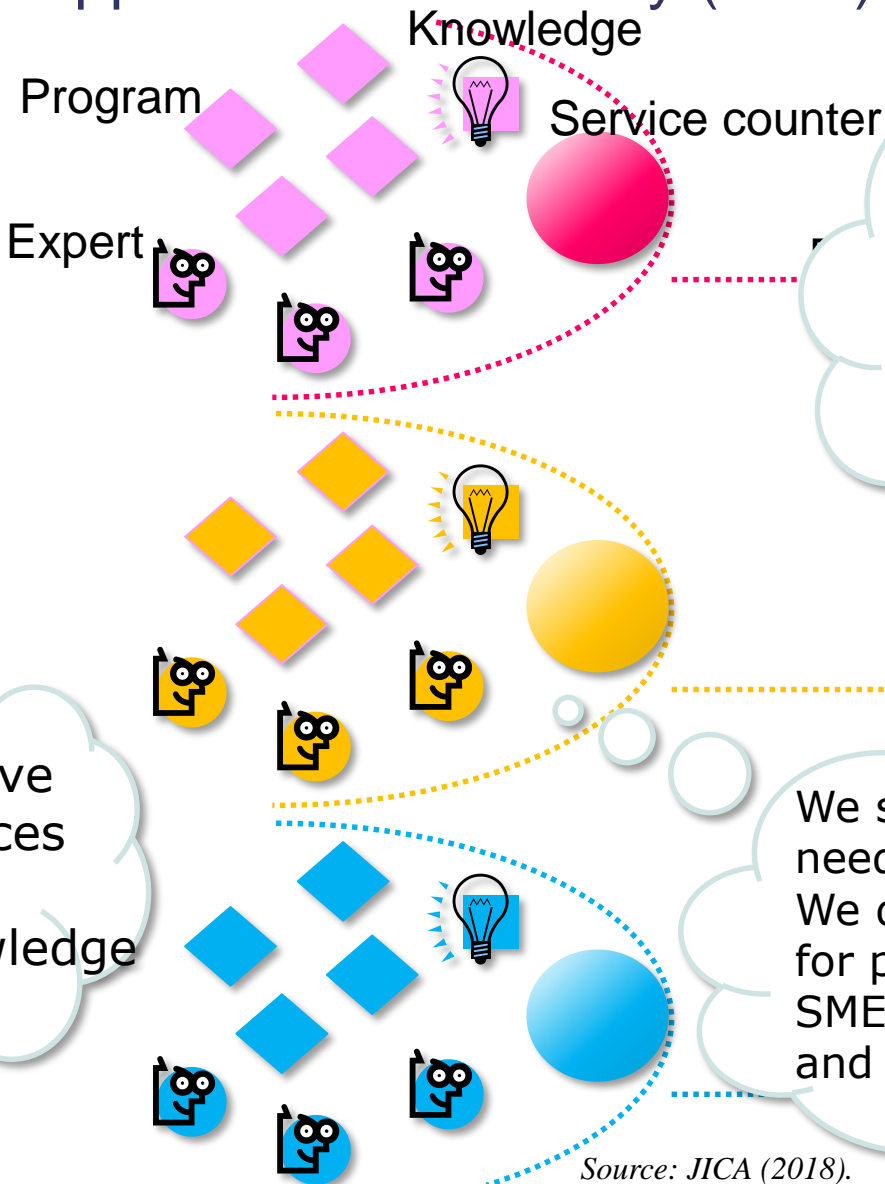
Expert

I don't know where to go for support.
I don't know any support is available at all.
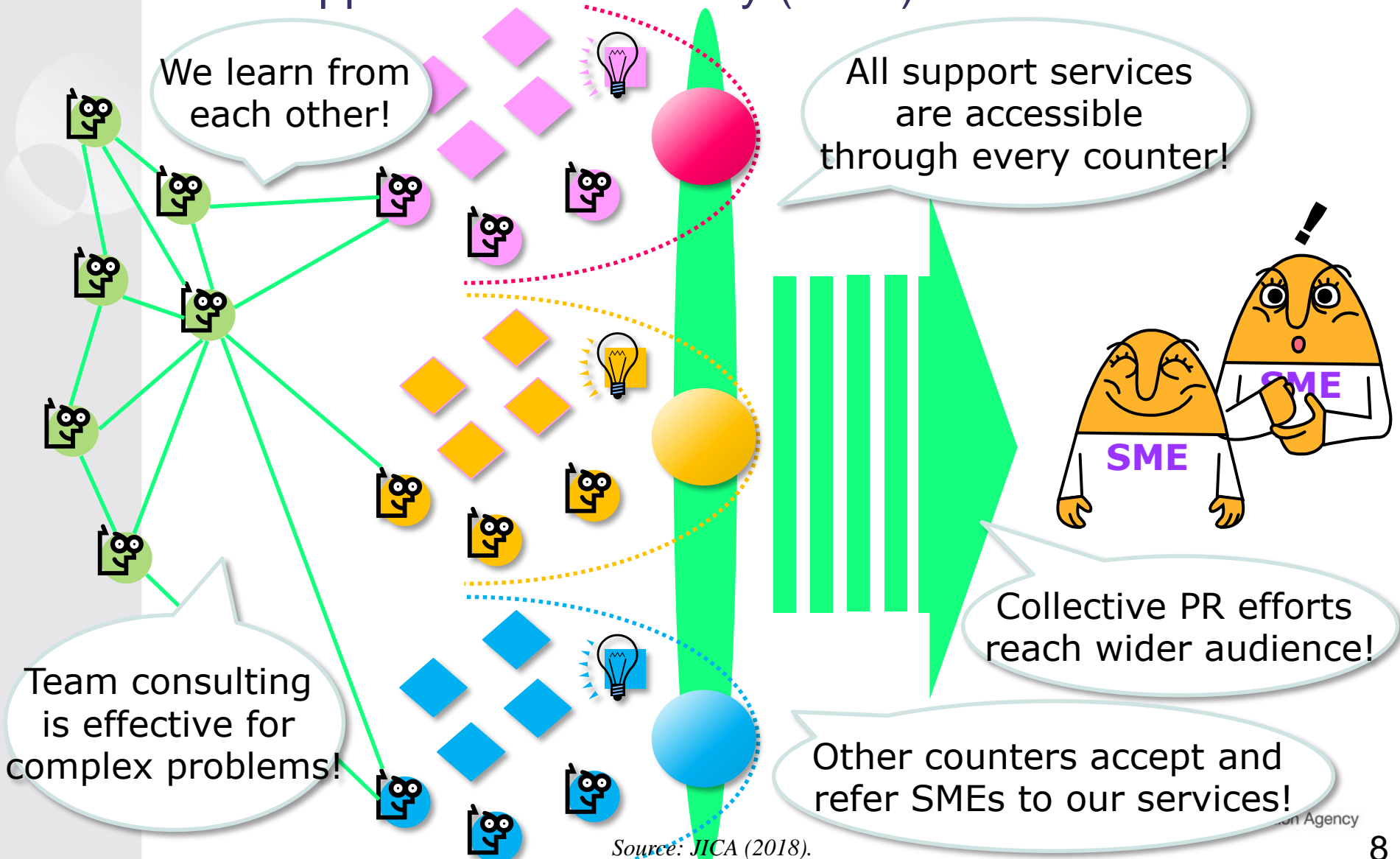I don't know what is my problem.

SME

We don't have ample chances to exercise expert knowledge and skills.

We strive to reach SMEs whose needs match our services.
We don't have helpful solution for problems beyond our expertise.
SME's problems are complex and require multilateral support.

Source: JICA (2018).

ational Cooperation Agency

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Concept - 2
SME support service delivery (to-be)

We learn from each other!

All support services are accessible through every counter!

Team consulting is effective for complex problems!

Collective PR efforts reach wider audience!

Other counters accept and refer SMEs to our services!

SME

SME

Source: JICA (2018).

(2) Project for Enhancing Regional Integrated SME Promotion (RISMEP) Mechanism in Thailand

BACKGROUND

Series of accomplishments in SME promotion
- SME Promotional Master Plan
- Establishment of SME Development Bank
- Development of the SHINDAN-SHI training and utilization system
- SME Promotional Law
- Establishment of OSMEP

➡ Need for improved SME support system at regional level

PILOT PROJECTS 2010-2011

Contact
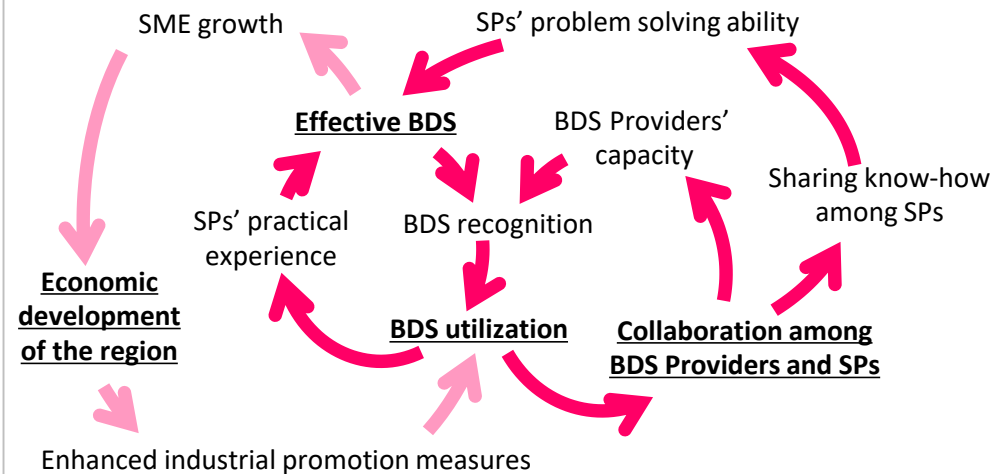Counseling
Consulting
Confidence
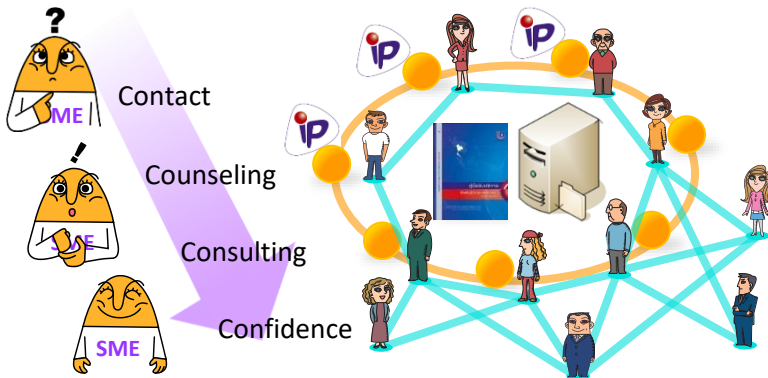
Chiang Mai
- Guidebook of SME support services
- SP training
- Network of one-stop counseling desks

Surat Thani
- Guidebook of SME support services
- SP training
- Network of organizations concerned with SME support
- Database of SPs and SME support organizations

What is RISMEP?

Historically, a variety of SME support organizations have provided different types of SME support services that are specialized in a specific field. SMEs are required to know what kind of service is appropriate for their needs and consult with a BDS provider specialized in the corresponding field.

In contrast, RISMEP is a mechanism to deliver SME support services in an effective and efficient manner, consisting of **a SME support network** that links individuals and organizations engaged in SME support and **a one-stop service function** to select and introduce a set of appropriate support services from an integrated list of SME support organizations and their services.

VISION
Toward a self-reinforcing regional system

SME growth
SPs' problem solving ability
Effective BDS
BDS Providers' capacity
SPs' practical experience
BDS recognition
Sharing know-how among SPs
Economic development of the region
BDS utilization
Collaboration among BDS Providers and SPs
Enhanced industrial promotion measures

Project Period: May 2013 - May 2016 (3 years)
Target Area: Bangkok (BSPD)
Chiang Mai (IPC1), Nakhon Ratchasima (IPC6), Suphanburi (IPC8), and Surat Thani (IPC10)

Overall goal: RISMEP mechanism will be maintained in the target provinces and further disseminated in other areas.
Project Purpose: RISMEP mechanism will be established by the IPCs in the target provinces, and will function effectively.

Source: JICA (2018).

Examples of activity plans

Chiang Mai
13 BDSPs **Univ.**

- Common booth at exhibitions
- Online firm introduction system
- BDS prov Database
- Network meeting (10+times/yr)
- Training individual BDS prov
- Integrate info of BDS policy
- Video clips on successful firms assisted by BDSP
- Promotion via FB (700 followers, 6000 access)

Nakhon Ratchasima
20 **Univ.**

- Referral system
- Training of BDS prov
- Common booth at exhibitions
- Service guidebook
- Common website

Surat Thani
25

- Regular meetings
- Informal meetings (sports, coffee, FB)
- Joint visit to SMEs
- Common booth at exhibitions
- Website
- Database
- Referral system
- Service guidebook
- Free diagnosis of problem for SMEs
- Diagnosis Checklist of SME analyses

Suphanburi
18 **Univ.**

- Joint visit to SMEs
- Workshops
- Coffee Forum (informal meeting)
- Common booth at exhibitions
- Service guidebook
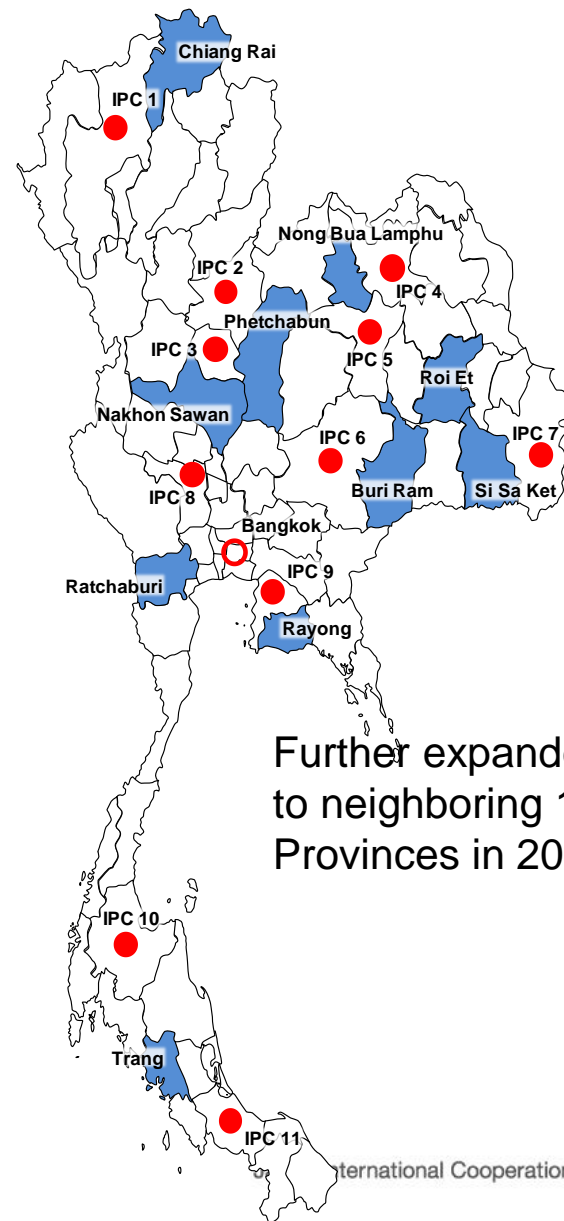- BDS prov database
- Training of BDS prov

*<u>Univ.</u>: University is involved in the regional network.

Source: JICA (2018).

RISMEP extension / expansion (Aug 2016- Dec 2018)
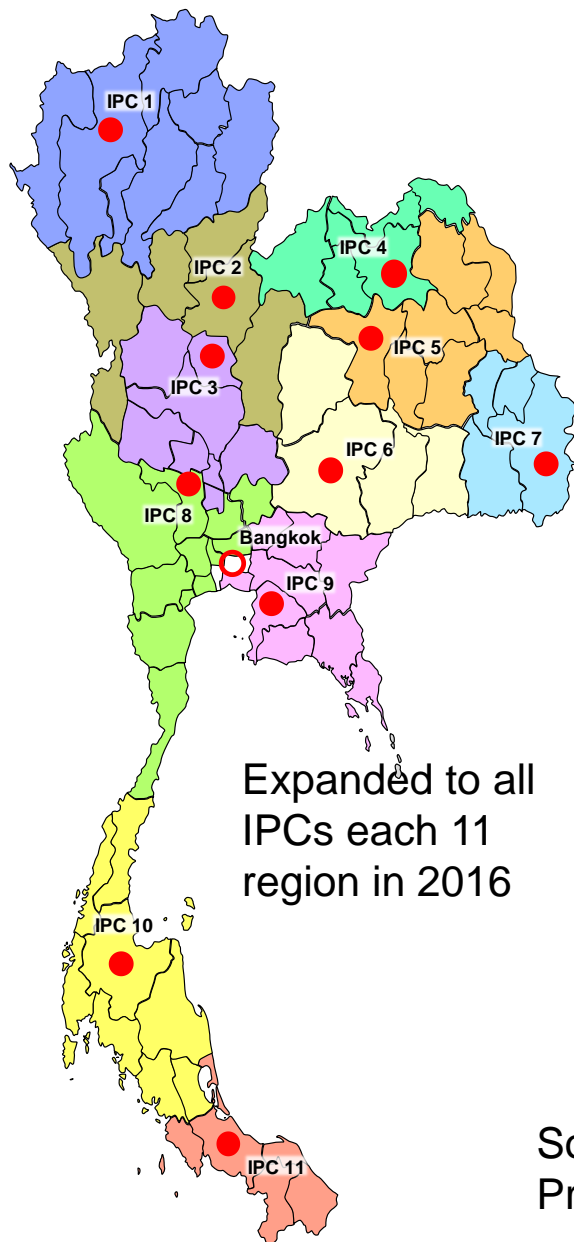
Expanded to all IPCs each 11 region in 2016

Further expanded to neighboring 10 Provinces in 2017

Source: JICA / JICA Project (2016, 2018)

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Summary of findings from impact evaluation of the project

- BDS providers
  - Increased interaction w/SMEs
  - Improved practices, particularly on outreach
  - Seem to have become more demand-oriented
- SMEs
  - Increased #BDS prov known in most provinces
  - Increased demand for BDS, particularly on marketing
  - Increased interaction w/BDS prov in some region
  - Improved some performances (receive contracts, more certified prod, greater increase in profit)

Policy implications from impact evaluation

- Networking BDS providers can bring positive changes to both themselves & SMEs.
- Cost-effective intervention as it doesn't require major construction of infrastructure or organizations.
- Can be a first step in changing the rigid vertically-segmented administrative systems in many countries.

Source: Suzuki and Igei (2016).

AUN/SEED-Net JICA

ASEAN University Network

Southeast Asia Engineering Education Development Network Project

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Achievement and Way Forward of AUN/SEED-Net

AUN/SEED-Net JICA

Achievement by Phase 3

(1) Improvement of Quality of Academic Staff
1,392 Master and PhD scholarship
(2) Improvement of Quality of Research
211 Research Projects
(3) Mobility/Network
More than 700 Trips (Research Fellowship, Short-term Research Program in Japan, Short-term Visit Program in ASEAN, Japanese Professor Dispatch Program)

Project Purpose of Phase 4

The network of AUN/SEED-Net among member countries is well maintained and expanded.

Networks among Member Institutions (MIs), Industry and community are strengthened

Research and educational capacity of MIs is enhanced through collaboration among MIs/Japanese Supporting Universities (JSUs)
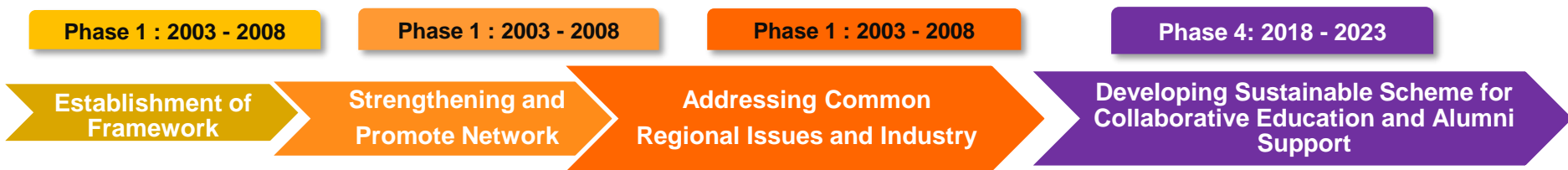
Joint research is promoted for solving regional issues

Academic network among MIs /JSUs is strengthened and expanded

Network of 40 Engineering Universities in ASEAN and Japan
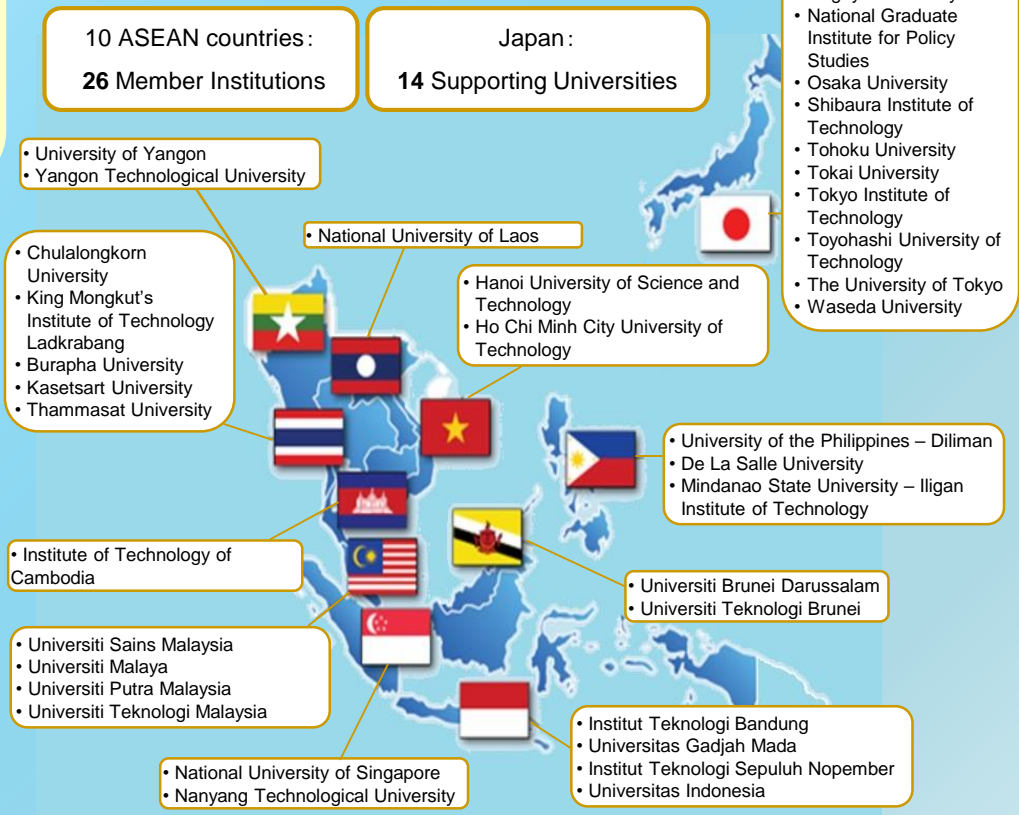
10 ASEAN countries：
26 Member Institutions

Japan：
14 Supporting Universities

- Hokkaido University
- Keio University
- Kyoto University
- Kyushu University
- Nagoya University
- National Graduate Institute for Policy Studies
- Osaka University
- Shibaura Institute of Technology
- Tohoku University
- Tokai University
- Tokyo Institute of Technology
- Toyohashi University of Technology
- The University of Tokyo
- Waseda University

- University of Yangon
- Yangon Technological University

- National University of Laos

- Chulalongkorn University
- King Mongkut's Institute of Technology Ladkrabang
- Burapha University
- Kasetsart University
- Thammasat University

- Hanoi University of Science and Technology
- Ho Chi Minh City University of Technology

- University of the Philippines – Diliman
- De La Salle University
- Mindanao State University – Iligan Institute of Technology

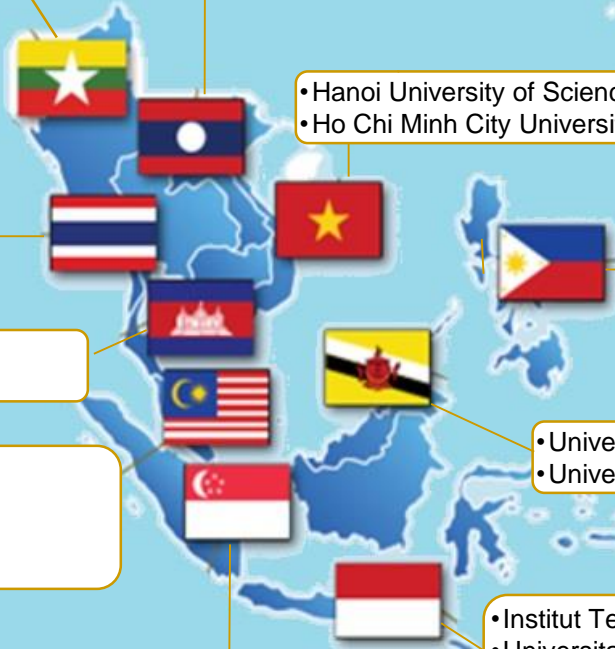- Institute of Technology of Cambodia

- Universiti Brunei Darussalam
- Universiti Teknologi Brunei

- Universiti Sains Malaysia
- Universiti Malaya
- Universiti Putra Malaysia
- Universiti Teknologi Malaysia

- Institut Teknologi Bandung
- Universitas Gadjah Mada
- Institut Teknologi Sepuluh Nopember
- Universitas Indonesia

- National University of Singapore
- Nanyang Technological University

Project Timeline

Phase 1 : 2003 - 2008	Phase 1 : 2003 - 2008	Phase 1 : 2003 - 2008	Phase 4: 2018 - 2023
Establishment of Framework	**Strengthening and Promote Network**	**Addressing Common Regional Issues and Industry**	**Developing Sustainable Scheme for Collaborative Education and Alumni Support**

Source: JICA (2018) 14

Engineering Universities Network by AUN/SEED-Net

Network of 40 Engineering Universities in ASEAN and Japan

10 ASEAN countries：	Japan：
26 Member Institutions	**14** Supporting Universities

- Hokkaido University
- Keio University
- Kyoto University
- Kyushu University
- Nagoya University
- National Graduate Institute for Policy Studies
- Osaka University
- Shibaura Institute of Technology
- Tohoku University
- Tokai University
- Tokyo Institute of Technology
- Toyohashi University of Technology
- The University of Tokyo
- Waseda University

- University of Yangon
- Yangon Technological University

- National University of Laos

- Hanoi University of Science and Technology
- Ho Chi Minh City University of Technology

- Chulalongkorn University
- King Mongkut's Institute of Technology Ladkrabang
- Burapha University
- Kasetsart University
- Thammasat University

- University of the Philippines – Diliman
- De La Salle University
- Mindanao State University – Iligan Institute of Technology

- Institute of Technology of Cambodia

- Universiti Brunei Darussalam
- Universiti Teknologi Brunei

- Universiti Sains Malaysia
- Universiti Malaya
- Universiti Putra Malaysia
- Universiti Teknologi Malaysia

- Institut Teknologi Bandung
- Universitas Gadjah Mada
- Institut Teknologi Sepuluh Nopember
- Universitas Indonesia

- National University of Singapore
- Nanyang Technological University

Collaborative Education Program (CEP)
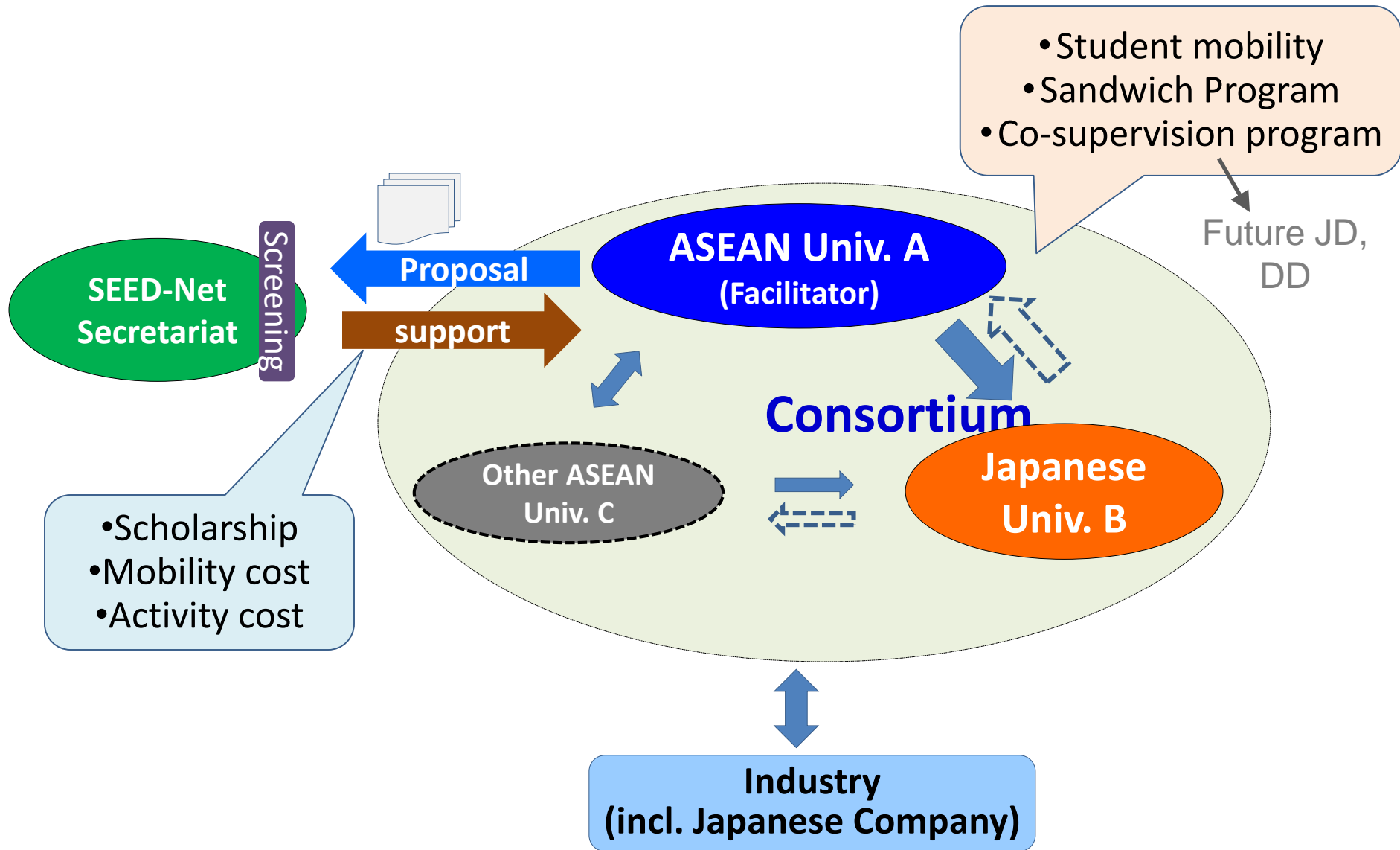
Regional Conference (RC)

- Once a year per field
- Faculty members & doctoral students are financially supported with the condition of paper presentation at the Regional Conference.
- Conference Budget is supported by AUN/SEED-Net.
- A speaker from the industry sector is required.
- More than 1,000 participants each year

Number of conference participants by type

JFY	ASEAN MIs	Japanese MIs	AUN/SEED-Net Scholarship Students	Other Universities	Private Sector	Public Sector	Others	Total
2015	680	70	15	174	27	55	22	1,043
2016	758	77	14	169	42	26	9	1,095

Research Programs

Major Research Programs	Phase 1	Phase 2	Phase 3	Total
Collaborative Research with Industry (CRI)	N/A	**12**	**34**	**46**
Collaborative Research Program for Common Regional Issues (e.g. Natural Disaster, Energy) (CRC)	N/A	**12**	**41**	**53**
Collaborative Research Program for Alumni of Degree Programs (CRA)	N/A	**83**	**38**	**121**
		98	**113**	**211**

Collaborative Research with Industry (CRI)

Applying Soil Cement Deep Mixing technology to reinforce earth levees to protect rice fields and rural people against floods in the Mekong Delta, Vietnam (HCMUT)

Collaborative Research Program for Common Regional Issues (CRC)
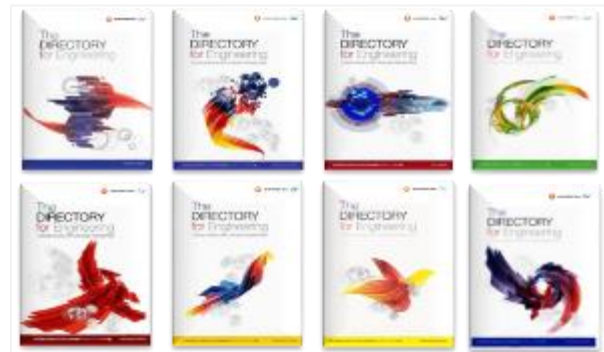Removal of arsenic from aqueous solution and groundwater by adsorption onto Cambodian clay (ITC)

U-I Linkage Activities

24 October 2017: U-I collaboration seminar in Ho Chi Minh City, Vietnam

All 8 editions of Directory of Engineering are successfully published.

Keywords/implications

Necessity for facilitators for synergies

Industrial policy to enhance business & R&D link (Indonesia)

SME promotion network involving universities (Thailand)

ASEAN wide industry & university synergy

Thank you!

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