

Case studies of EU-Japan business cooperation in Southeast Asia



EU-Japan Centre
for Industrial Cooperation

一般財団法人
日欧産業協力センター

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If you wish to have more information about some of these cases, please contact us at:
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Transportation

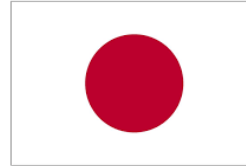


Case 1: Air traffic control building and systems in Ninoy Aquino International Airport, Philippines



**Department of Transportation
and Communications**

(public sector)



**Sumitomo
Corporation**

(large company)



Thales

(large company)



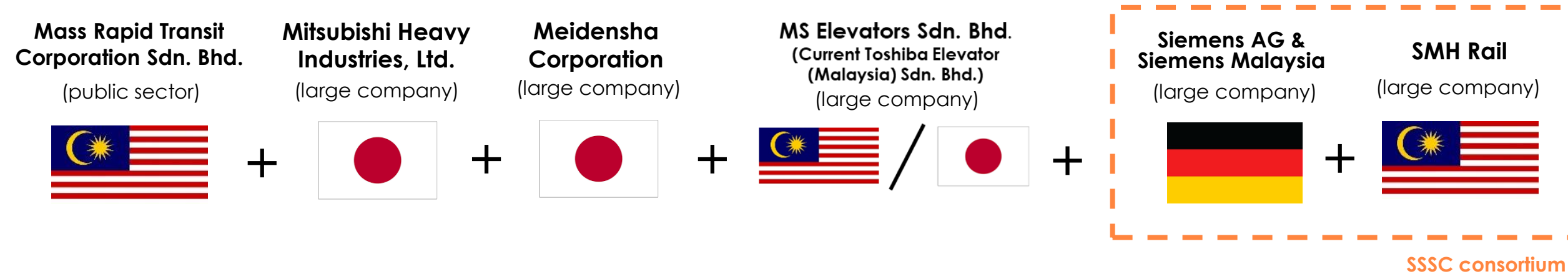
About the project:

- The joint venture between Sumitomo Corporation and the French company Thales delivered next-generation air traffic control systems to the Philippines' Department of Transportation and Communication (it became the Department of Transportation in 2016).
- The contract amounted to about 9 billion yen. The contract was initially turned down by the Commission on Audit in 2011, and an amended contract was signed by both parties in March 2013.
- The contract covered the "construction of a new air traffic control centre within the Ninoy Aquino International Airport in the Philippines, and delivery of air traffic control systems (including systems for communications, aeronautical information processing, satellite signal monitoring, and weather) at the new air traffic control centre and major airports in the Philippines (about 25 sites)."

Financing:

- The modernisation of the Philippines' air traffic control system has been supported by Official Development Aid (ODA) from the Japanese Government. In 2002, the Japan International Cooperation Agency (JICA) committed to provide yen loans amounting to about ¥22 billion to the Philippines' Department of Transportation and Communication.

Case 2: Klang Valley Mass Rapid Transit (KVMRT) project

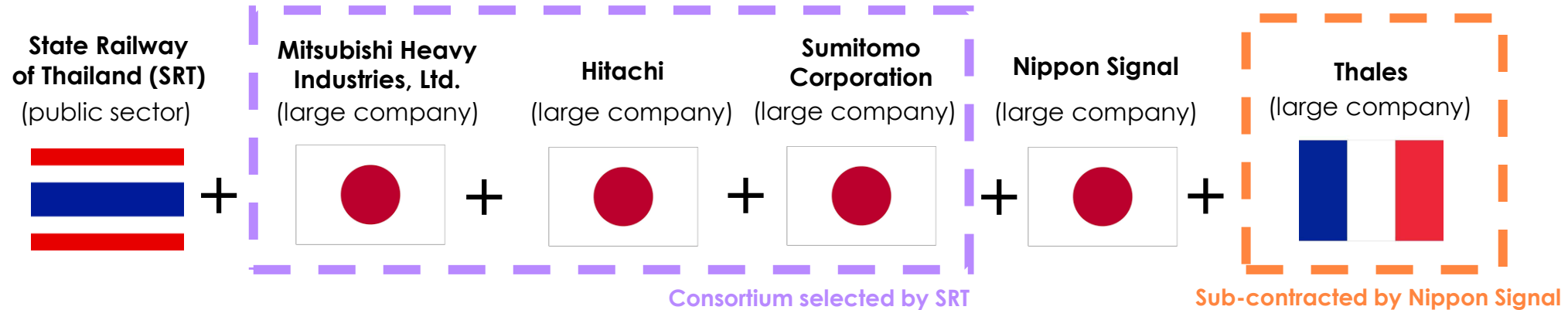


About the project:

- The largest urban transport railway, Klang Valley Mass Rapid Transit (KVMRT) Sungai Buloh - Kajang (SBK) Line project in Malaysia, was completed and officially opened by the Malaysian prime minister in July 2017. SBK Line is the first of three lines of the KVMRT project.
- The line includes thirty-one stations, of which seven are underground, and the project aims at reducing traffic congestion in the capital city.
- Mitsubishi Heavy Industries won a tender for the design, engineering, procurement and installation of Track Works which is worth ¥22 billion.
- Meidensha Corporation and its Malaysian subsidiary completed the power supply and distribution system along the whole line and were also in charge of supplying equipment and on-site installation works.
- MS Elevators (current Toshiba Elevator (Malaysia)), an affiliate of Toshiba Elevator and Building Systems Corporation, was responsible for the design, supply, and installation of escalators and moving walkways in the stations.
- The SSSC consortium, which includes Siemens Malaysia, Siemens AG and SMH Rail, was awarded a contract to supply 58 new driverless four-car metro trains for the project and a depot workshop equipment for two rolling stock depots.



Case 3: Bangkok Red Line Train's control system



About the project:

- The Red Line commuter train system is a suburban rail project proposed by Thailand's main rail operator, the State Railway of Thailand (SRT), to address traffic congestion and encourage a shift from road transport to urban rail. The SRT has adopted the European Train Control System (ETCS) on its Red Line Train, a European-wide standard that aims at boosting capacity and help ensure highest safety standards.
- In April 2017, the SRT awarded a four-year electrical and mechanical turnkey contract of 32.399 billion Thai Baht to a Japanese consortium including Mitsubishi Heavy Industries, Hitachi, and Sumitomo Corporation. MHI was responsible for design and procurement of systems other than rolling stocks, Hitachi was responsible for the design and build of rolling stocks, and Sumitomo was responsible for administration work and the local installation work. The three companies delivered a total of 25 train sets sourced from Japan.
- Nippon Signal was awarded a signalling contract by Mitsubishi Heavy Industries in January 2018 to install a computer-based interlocking, automatic train supervision system (ATS), automatic train protection (ATP) and a train detection system, including ETCS Level 1. Through a contract with Nippon Signal, Thales delivered the ETCS on two sections of the Red Line.

Financing:

- The North Line (Bang Sue to Rangsit) was constructed using JICA's International Yen Loan, and the West Line was constructed using the Thai Government's own fund. The total ODA loan from JICA amounted to ¥268 billion covering the construction of the Bang Sue-Rangsit section, the Bang Sue grand station, the rolling stock and mechanical & electrical services.



Case 4: Rolling stock project in Myanmar

**Myanma
Railways**
(state-owned
company)



+

**Mitsubishi
Corporation**
(large company)



+

**Construcciones y Auxiliar
de Ferrocarriles (CAF)**
(large company)



About the project:

- In December 2020, Mitsubishi Corporation announced that it had signed two contracts with Myanmar's state-run railway, Myanma Railways to deliver it new units of rolling stock. The first contract is for 66 cars for the Yangon Circular Railway (YCR) Upgrading Project, and the second is for 180 cars for the Yangon-Mandalay Railway (YM) Upgrading Project.
- The cars will include Japanese components and equipment and will be built by Construcciones y Auxiliar de Ferrocarriles, S.A. (CAF), which is Spain's largest manufacturer of rolling stock. The cars are expected to be delivered to Myanmar between 2023 and 2025.
- The projects are part of Myanmar government's plans to upgrade the country's infrastructure network with the aim to contribute to the modernisation of domestic transport and strengthen the country's socio-economic development.

Financing:

- An international-yen-loan agreement between the governments of Japan and Myanmar will cover the costs of the two projects for approximately ¥69 billion.



Case 5: Metropolitan Manila Subway

**Department of
Transportation**
(public sector)

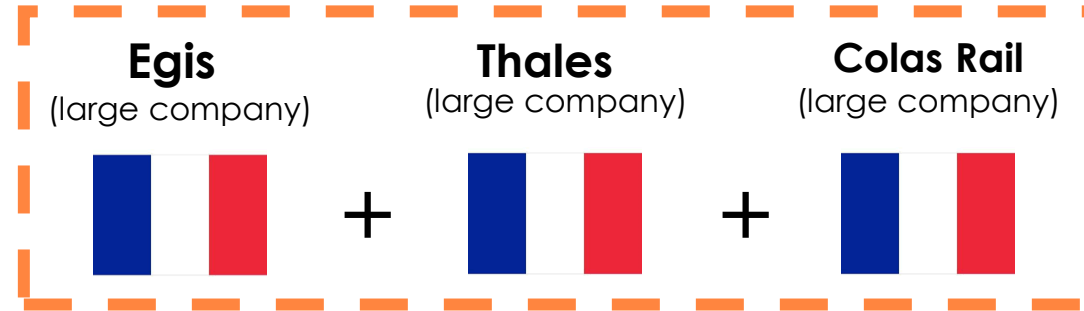


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**Mitsubishi
Corporation**
(large company)

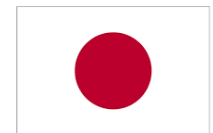


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Nippon Signal
(large company)



Provider selected
by Colas Rail



About the project:

- The Philippines' Department of Transportation selected Mitsubishi Corporation to deliver the integrated railway systems and trackwork for the Metro Manila Subway. The awarded contract is worth approximately ¥140 billion and is expected to be completed in 2028.
- Mitsubishi Corporation will be responsible for designing, manufacturing, installing and delivering all the systems such as trackwork, signals, telecommunications, power distribution, overhead contacts, etc.
- The consortium between Egis, Colas Rail and Thales was awarded the E&M system and trackwork package subcontract by Mitsubishi Corporation. The French companies will provide various elements such as digital communication systems, automatic fare collection systems, platform screen doors, etc. Nippon Signal was chosen by Colas Rail to deliver the signalling system.
- This new line will help with the growing demand for public transportation and help reduce traffic congestion and atmospheric pollution in Metro Manila.

Financing:

- The project is financed through a ¥253,307 million ODA loan from JICA granted under the Japanese government's Special Terms for Economic Partnership (STEP) program. According to JICA, "STEP refers to special assistance terms for promoting the visibility of Japanese aid through a transfer of outstanding Japanese technology and expertise to developing nations. The main contract is Japan tied and subcontracting is general untied."

Case 6: Extension of the North South Commuter Railway (NSCR)

**Department of
Transportation**
(public sector)



+

**Mitsubishi
Corporation**
(large company)



+

Alstom
(large company)



+

Colas Rail
(large company)



Consortium subcontracted
by Mitsubishi Corporation

About the project:

- The NSCR extension project is part of the Manila Transport Master Plan and aims at building about 110 km of mainline track and serving 27 new stations.
- Mitsubishi Corporation reached an agreement with the Department of Transportation of the Philippines to deliver integrated railway systems for the NSCR for a contract of ¥260 billion. Mitsubishi Corporation will be responsible for designing, manufacturing and installing all the systems.
- Alstom is leading a consortium with Colas Rail and will be responsible for the system integration, signalling and telecommunication, power supply, automated fare collection system, platform doors, maintenance systems and depot equipment, as well as control centre and training. Alstom will deploy a European Rail Traffic Management System (ERTMS) level 2 signalling system for the first time in Southeast Asia.
- Colas Rail will cover the design, supply, installation, testing and commissioning of the tracks and overhead contact systems.
- This will be the third project involving a partnership between Colas Rail and Mitsubishi Corporation outside of Japan, following the Cairo Metro Line 4 in Egypt and the Manila Metro project in the Philippines.

Financing:

- This project is financed through a JICA ODA loan with Special Terms for Economic Partnership (STEP) conditions.



Energy



Case 7: Phu My 4 combined cycle gas turbine (CCGT) power plant

Electricity of Vietnam
(large company)



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Alstom

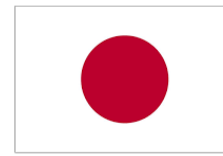
(large company)



+

Marubeni Corporation

(large company)



+

Vietnam Machinery Erection
Co. ('LILAMA')

(large company)



About the project:

- In 2002, a consortium including Alstom, Marubeni Corporation and Vietnam Machinery Erection Co. ('LILAMA') was awarded by Electricity of Vietnam a €238-million turnkey contract to build a 450 MW combined-cycle power plant in an existing Phu My power site. The construction of Phu My 4 combined-cycle plant began in December 2003 and became operational from 2004.
- Alstom, the consortium leader, supplied gas turbines and steam turbine generators, and was also responsible for the main mechanical equipment and control system of the power island.
- In 2003, Alstom signed an 8-year long-term service agreement with Electricity of Vietnam for the Phu My 4 and Phu My 2.1 plants. The long-term service agreement with Alstom was renewed for another 8 years in 2011.

Case 8: Phu My 2-2 combined cycle gas turbine (CCGT) power plant

Vietnam's Ministry of
Industry and Trade (MOIT)
(public sector)



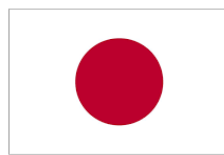
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EDF International
(large company)



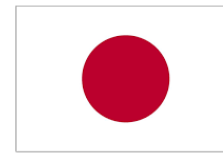
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Sumitomo
Corporation
(large company)



+

Tokyo Electric Power Company
(TEPCO)
(large company)



+

JERA
(large company)



+

Electricity of Vietnam
(large company)



Shareholders of the Vietnamese company Mekong Energy Company Ltd. (MECO)

About the project:

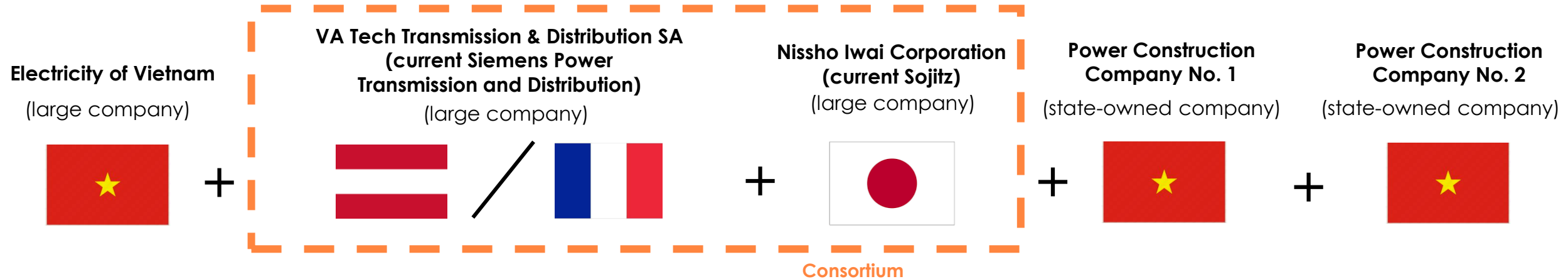
- Mekong Energy Company (MECO) is Vietnam's first Independent Power Producer (IPP). MECO shareholders are EDF International (56.25%), Sumitomo Corporation (28.125%) and Tokyo Electric Power Company (TEPCO) International (15.625%). JERA succeeded to this project from TEPCO Fuel & Power in July 2016.
- MECO was established in 2003 to build the Phu My 2-2 power plant and to own and operate it under a 20-year Build-Operate-Transfer (BOT) contract awarded by Vietnam's Ministry of Industry and Trade. It is the first BOT power project in Vietnam which is 100% owned by foreign investors. The power plant will be transferred to the Government of Vietnam twenty years after the commercial operation date in February 2005.
- MECO owns and operates the 715-MW advanced combined cycle power plant Phu My 2-2 which is located in Ba Ria - Vung Tau province, 70 km southeast of Ho Chi Minh City.
- The electricity generated by Phu My 2-2 is fully purchased by Electricity of Vietnam.

Financing:

- The project was supported by a range of financing organisations, such as the Vietnamese Government, the World Bank, the Asian Development Bank, the Japan Bank for International Cooperation (JBIC), PROPARGO (a subsidiary of the French Development Agency), and several commercial banks.



Case 9: Phu My – Ho Chi Minh City 500kV transmission line



About the project:

- Due to the rapid increase of the demand for electricity along with economic development, the Vietnamese government developed several large-scale thermal power generation plants in Phu My, 45km southeast of Ho Chi Minh City, as part of its plan to develop the area as a power generation base with a final installed capacity of over 3,000 MW.
- However, it was estimated that the existing 220kV transmission facilities at that time (1,450MW in 2001) could not fully extend power from the plants in Phu My, thus, increasing transmission capacity became necessary for a stable power supply in the region.
- A consortium between the Austrian company VA Tech T&D, through their French subsidiary, (and absorbed by Siemens Power T&D in 2005) and Nissho Iwai Corporation (currently known as Sojitz) won a contract from Electricity of Vietnam for the construction of new 500/225 kV substations at Phu My and Nhabe, and the 500 kV extension of Phulam substation. On completion of the project, nearly 3000 MWe produced by Phu My, the biggest power plant complex in Vietnam, will be transmitted to the 500 kV national grid.
- The main contractors of the project were Power Construction Company No. 2 (Vietnam), Power Construction Company No. 1 (Vietnam), and the consortium between VA Tech Transmission & Distribution SA and Nissho Iwai Corporation.

Financing:

- The project was financially supported by the Government of Vietnam and the Japan Bank for International Cooperation (JBIC).
- The total cost was ¥15,443 million. The loan from JBIC covered ¥13,127 million and the rest was financed by the Government of Vietnam.



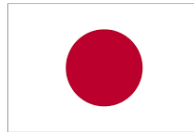
Case 10: Senoko Power Station - combined cycle gas turbine (CCGT) power plant in Singapore

**Government of
Singapore**
(public sector)



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Marubeni Corp.
(large company)



+

Engie S.A.
(former GDF SUEZ)
(large company)



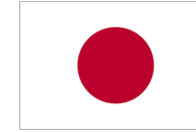
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Kyushu Electric Power Co. Inc.
(Kyuden International Corp.)
(large company)



+

**Kansai Electric
Power Co., Inc.**
(large company)



+

JBIC
(public sector)



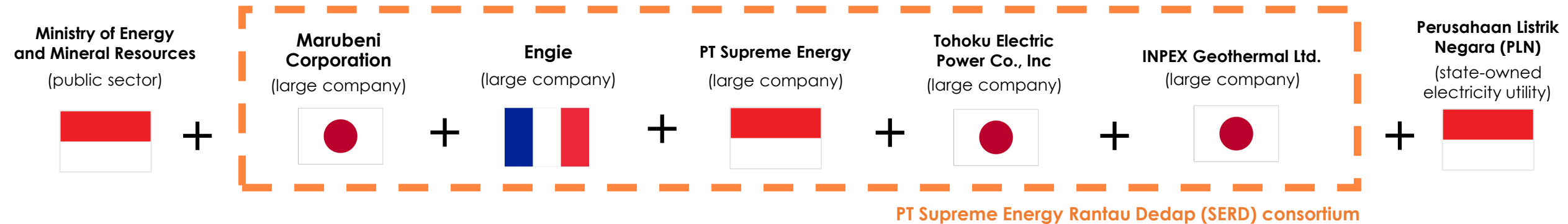
Consortium that acquired the company Senoko Energy Pte Ltd and operates the Senoko Power Station



About the project:

- The Senoko Combined Cycle Power Plant is a gas fired power project located in the North West of Singapore.
- It is operated by the company Senoko Energy Pte Ltd. (former Senoko Power Limited) which is owned by a consortium comprising Marubeni Corporation, ENGIE S.A. (former GDF SUEZ), Kansai Electric Power Co., Inc., Kyushu Electric Power Co. Inc. (Kyuden International Corp.) and the Japan Bank for International Cooperation (JBIC).
- In 2008, Senoko Power Limited was awarded to this consortium as part of a privatization bid by the government of Singapore, former owner of the company. Senoko Power Limited became Senoko Energy Pte Ltd. in 2010.
- The plant has been providing energy since 1977.
- Senoko Power Station is one of the largest and most efficient power generation plant in Singapore. It supplies about 20% electricity needs in Singapore.

Case 11: Rantau Dedap Geothermal Independent Power Project



About the project:

- The power plant is located in South Sumatra, Indonesia, and was developed by PT Supreme Energy Rantau Dedap (SERD), a special-purpose company formed in 2008 by an initial consortium consisting of Marubeni (35%), PT Supreme Energy (30%) and Engie (35%).
- In 2012, the Rantau Dedap project and Indonesian state-owned electricity utility Perusahaan Listrik Negara (PLN) entered into a Power Purchase Agreement (PPA).
- In 2017, Tohoku Electric Power Co., Inc invested in the Rantau Dedap plant, its first overseas geothermal power project. The investment ratio of Tohoku Electric was of 10%.
- In 2022, INPEX Corporation, through its subsidiary INPEX Geothermal Ltd., also joined the project by acquiring 27.4% of the shares of PT Supreme Energy Rantau Dedap held by Engie.
- The commercial operation of the Rantau Dedap Geothermal Independent Power Project started in December 2021.

Financing:

- In March 2018, the Japan Bank for International Cooperation (JBIC) signed a loan agreement of approximately \$188 million (JBIC portion) with PT Supreme Energy Rantau Dedap. The loan was co-financed by private-sector banks such as Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, the Bank of Tokyo-Mitsubishi UFJ, Ltd., and the Asian Development Bank (ADB). Nippon Export and Investment Insurance (NEXI) provided insurance for the portion co-financed by the private-sector banks. The total co-financing amount was approximately \$539 million.



Case 12: Balingasag coal-fired power plant in the Philippines

Cagayan Electric Power & Light Co. (CEPALCO)

(large company)



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Toshiba Plant Systems & Services Corporation

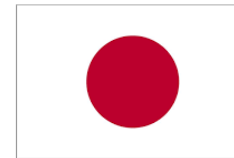
(large company)



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Mitsubishi Corporation

(large company)



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ThyssenKrupp Industries India

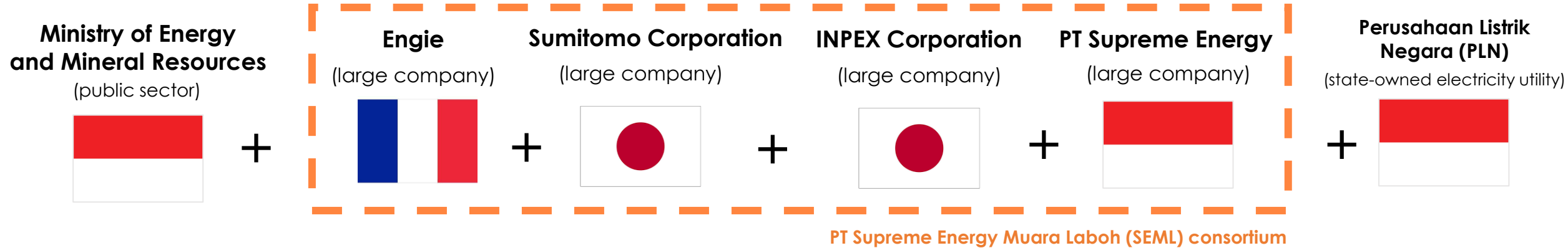
(large company)



About the project:

- The power plant is located in Balingasag, Mindanao, the second-largest island in the Philippines.
- The final customer is CEPALCO, a privately owned electric distribution utility company.
- Mitsubishi Corp. was the general contractor of the project and Toshiba Plant Systems & Services Corp. was responsible for the technical execution of the project.
- Through their subsidiary in India, ThyssenKrupp supplied 3 boilers (55MW). The project's scope was for design, engineering and supply (FOB).
- ThyssenKrupp's equipment was selected because of their good performance and also due to the presence of the German company in Tokyo and Manila through local offices.

Case 13: Muara Laboh geothermal power plant



About the project:

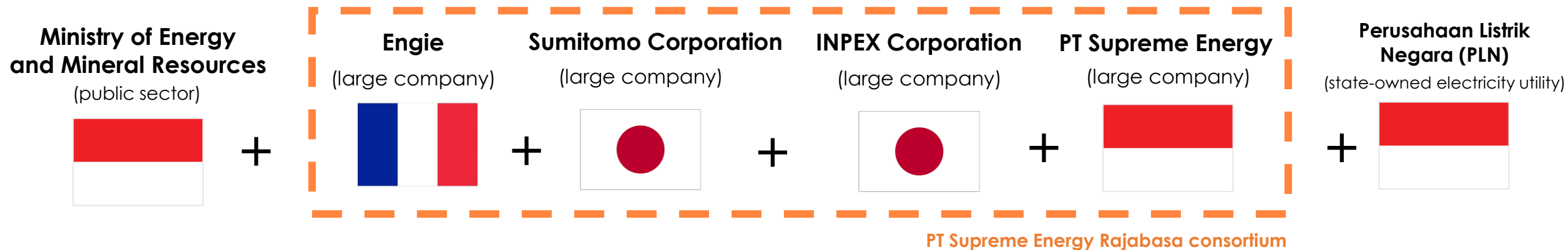
- The company PT Supreme Energy Muara Laboh (SEML) is a consortium initially including Sumitomo Corporation, Engie and PT Supreme Energy. INPEX joined the consortium in 2022, by acquiring 33.333% of the shares of PT Supreme through its subsidiary INPEX Geothermal Ltd. After winning a tender, SEML was awarded the Muara Laboh concessions in 2010 and received a geothermal license afterward. In 2022, Sumitomo Corporation acquired 15% of equity stake held by Engie, which increased Sumitomo's equity stake in the project to 50%.
- Following the signature of a Power Purchase Agreements (PPA) in 2012, the electricity generated by the plant would be purchased by PLN, the Indonesian state-owned electricity utility, for thirty years.
- The plant is located in Solok Selatan region, West Sumatra, Indonesia. Stage 1 of the commercial operation was announced in 2019. Stage 2 will start after the amendment of the PPA is concluded, which is expected to be around mid-2023. The power plant is expected to have an installed capacity of 82 MW.

Financing:

- In 2017, the \$440 Million financing agreement was signed by the PT Supreme Energy Muara Laboh consortium with the Japan Bank for International Cooperation (JBIC), the Asian Development Bank (ADB), Nippon Export and Investment Insurance (NEXI), Sumitomo Mitsui Banking Corporation, Mitsubishi UFJ Financial Group and Mizuho Bank.



Case 14: Rajabasa geothermal power plant



About the project:

- The company PT Supreme Energy Rajabasa is a consortium initially including Sumitomo Corporation, Engie and PT Supreme Energy. INPEX joined the consortium in 2022, by acquiring 31.45% of the shares of Engie through its subsidiary INPEX Geothermal Ltd.
- The project started in 2008, when the Indonesian Ministry of Energy and Mineral Resources assigned PT. Supreme Energy to conduct pre-feasibility studies in Gunung Rajabasa geothermal prospects.
- Following the signature of a Power Purchase Agreements (PPA) in 2012, the electricity generated by the plant will be purchased by PLN, the Indonesian state-owned electricity utility.
- The plant is located in Gunung Rajabasa, South Lampung Regency, Lampung Province, Indonesia. As of January 2023, the project was still in the exploration stage. Surface and geophysical surveys have indicated a certain potential for geothermal resources.



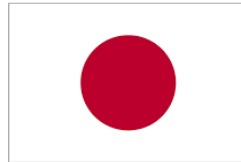
Case 15: South Bangkok (combined-cycle thermal) Power Plant Replacement Project

**Electricity Generating
Authority of Thailand (EGAT)**
(state-owned enterprise)



+

**Marubeni
Corporation**
(large company)



+

**Siemens
Aktiengesellschaft**
(large company)



+

**Siemens Limited,
Thailand**
(large company)



Project consortium

About the project:

- In 2017, the parties involved announced that the Thai state-owned utility Electricity Generating Authority of Thailand (EGAT) ordered the delivery of a turnkey combined cycle power plant from the Marubeni-Siemens consortium.
- The project is located in the Mueang District of Samut Prakan Province, a southern suburb of Bangkok, Thailand. The new power plant will replace an existing thermal power plant and will aim at reducing the environmental impact. It will have the capacity to produce around 1,200MW of electricity.
- The Marubeni-Siemens consortium will be in charge of engineering, procurement, construction and commissioning. Siemens will supply main equipment such as gas turbines, steam turbines, generators and heat recovery steam generators. Marubeni Corporation will supply the balance of plant equipment, civil engineering/construction and installation work.
- This is the 5th combined cycle power plant project between Marubeni Corporation and Siemens in Thailand.



Case 16: Son My combined cycle gas turbine (CCGT) power plant

**Ministry of Industry
and Trade**
(public sector)



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EDF Group
(large company)



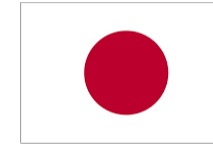
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Pacific Corporation
(large company)



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Sojitz Corporation
(large company)



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**Kyushu Electric
Power Co.**
(large company)



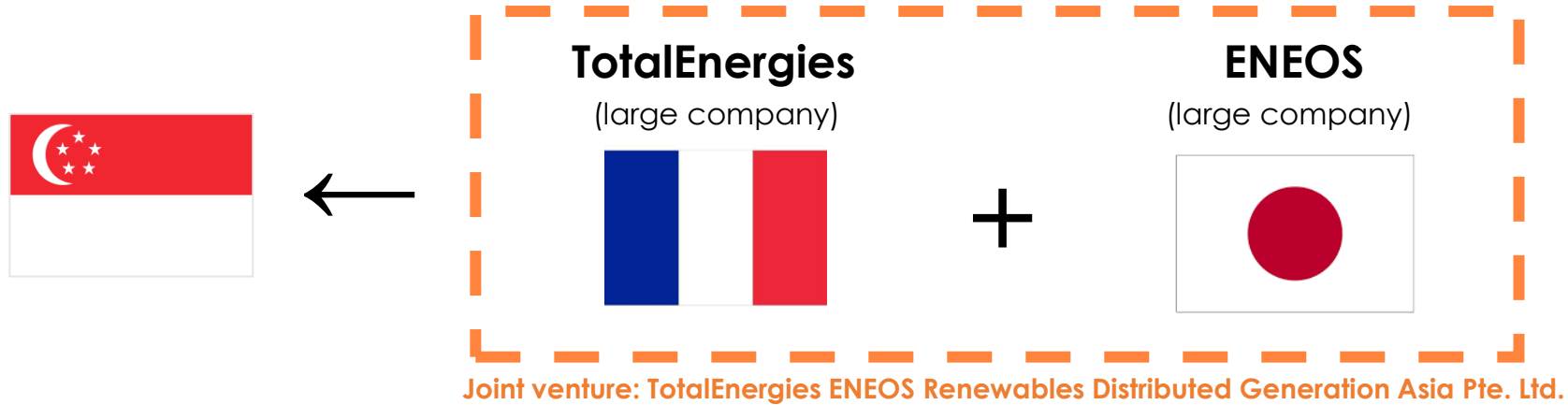
Project consortium led by EDF

About the project:

- In March 2018, the Vietnamese government confirmed the decision to appoint the EDF Group as leader of an international consortium that would be in charge of a combined-cycle gas-fired plant construction project at Son My, Vietnam.
- The consortium includes EDF (37.5%), Pacific Corporation (25%), Sojitz Corporation (18.75%) and Kyushu Electric Power Co. (18.75%).
- In November 2018, a Memorandum of Understanding (MOU) was signed between EDF, on behalf on the consortium, and the Vietnamese Ministry of Industry and Trade to set out the general framework for the project. The MoU will open the way to the negotiation of different agreements that will ultimately lead to the final investment decision.
- The project aims at the construction and operation of a 2250-MW high-efficiency and environmentally sustainable combined-cycle gas-fired plant over a 20-year period. The project is aligned with Vietnam's energy diversification policy and will aim at meeting the growing demand for electricity and reducing the proportion of coal in Vietnam.
- The project is currently at the permitting stage and will be developed in multiple phases. The project construction is expected to start in 2027 and to enter into commercial operation in January 2028.



Case 17: Development of B2B Solar distributed generation across Asia Pacific



About the project:

- In 2022, TotalEnergies and ENEOS signed a joint venture agreement to develop onsite B2B solar distributed generation across Asia, mainly in Japan, India, Thailand, Vietnam, Indonesia, Philippines, Cambodia, Singapore and Malaysia.
- The company created for this joint venture, TotalEnergies ENEOS Renewables Distributed Generation Asia Pte. Ltd., is based in Singapore and aims at developing 2GW of decentralised solar capacity over 5 years.
- For this project, TotalEnergies will use its expertise on this market segment and its global footprint, while ENEOS will use its expertise in renewables and its strong brand, mainly in Japan, to lower the costs of decentralised solutions offered to industrial and commercial customers.
- The joint venture started with the signature of its first long-term power purchase agreement on 34 MWp across nine countries. This would include B2B customers such as Air Liquide, PTT Global Chemical and Yanmar Engine.



Case 18: Joint development of carbon capture and storage (CCS) project in Malaysia

TotalEnergies Carbon Neutrality Ventures
(a subsidiary of TotalEnergies)

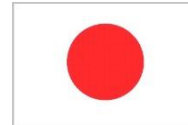
(large company)



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Mitsui & Co., Ltd.

(large company)



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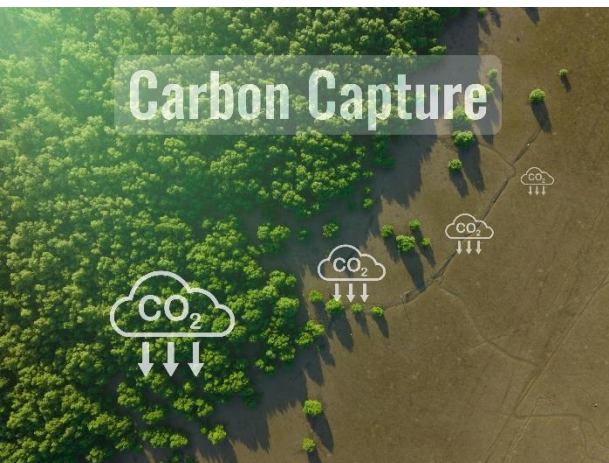
Petroleum Nasional Berhad
(PETRONAS)

(large company)



About the project:

- In June 2023, Mitsui & Co., Ltd., Malaysia's national oil company Petroleum Nasional Berhad (PETRONAS) and TotalEnergies Carbon Neutrality Ventures (a subsidiary of TotalEnergies) announced the signature of an agreement for the joint development of CO₂ storage site in Malaysia.
- The partnership aims at building an integrated carbon capture and storage (CCS) value chain in Southeast Asia.
- Malaysia's strategic location, offering easy maritime access to industrial CO₂ emitters in Asia like Japan, positions it as a potential hub for CCS, connecting regional industries with safe and permanent CO₂ storage sites.
- The three companies selected offshore Peninsular Malaysia as the location of underground sequestration of CO₂, where the sub-surface structure is well known thanks to past oil and gas exploration and development activities. The companies will assess several CO₂ storage sites in the Malay Basin, including both saline aquifers and depleted offshore fields.
- The partners will collaborate on technical evaluations, development concepts for depleted fields, and optimizing logistics for liquefied CO₂ transportation and port facilities.
- The three companies will study potential storage sites, determine the best means of delivering CO₂ to Malaysia from regional industrial clusters, and develop a suitable business framework for commercializing carbon storage services in Malaysia.



Chemicals



Case 19: Kaltim 1A (POPKA) fertilizer plant - Bontang

**PT Pupuk Kalimantan
Timur (Kaltim)**

(large company)



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**PT Rekayasa Industri
(REKIND)**

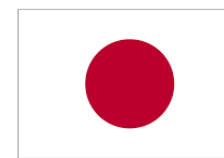
(large company)



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Chiyoda Corporation

(large company)



+

ThyssenKrupp

(large company)



About the project:

- The Kaltim 1A (POPKA) plant is an ammonia and urea plant located in Bontang, Indonesia.
- PT Pupuk Kalimantan Timur (Kaltim) is the owner of the project.
- Chiyoda Corporation was the main EPC contractor and REKIND was involved in the construction.
- ThyssenKrupp provided licenses and equipment to Chiyoda for the urea granulation plant with a capacity of 1725 mt/d each. ThyssenKrupp was chosen because it had a general license agreement with Chiyoda for the urea granulation technology.



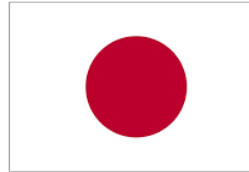
Case 20: Kaltim 4 fertilizer plant

P.T. Pupuk Kalimantan Timur (Kaltim)
(large company)



+

Mitsubishi Heavy Industries, Ltd.
(large company)



+

ThyssenKrupp
(large company)



About the project:

- The Kaltim 4 plant is an ammonia and urea plant located in Indonesia.
- PT Pupuk Kalimantan Timur (Kaltim) is the owner of the project.
- The EPC contractor for the project was Mitsubishi Heavy Industries Ltd.
- ThyssenKrupp provided licenses and equipment for the urea granulation plant with a capacity of 1725 mt/d each to Mitsubishi Heavy Industries. ThyssenKrupp was chosen by MHI because of an existing general license agreement for the urea granulation technology and because ThyssenKrupp's subsidiary Uhde has a good reputation in the market.

Case 21: Cilegon petro-chemical plant (ethylbenzene)

**PT Styrimdo Mono
Indonesia (SMI)**

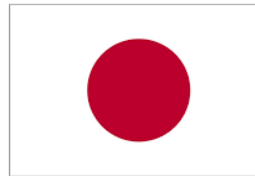
(large company)



+

**Mitsubishi Heavy
Industries, Ltd.**

(large company)



+

ThyssenKrupp

(large company)



About the project:

- The ethyl benzene plant project started around early 1997 and is located in Cilegon, Indonesia.
- The owner of the ethyl benzene plant project is the Indonesian company PT Styrimdo Mono Indonesia (SMI).
- SMI is a subsidiary of PT Chandra Asri Petrochemical, the largest petrochemical producer in Indonesia and the only ethyl benzene producer in Indonesia with a capacity of 200,000 tonnes per annum, which is fully used as raw material for their styrene monomer plant. SMI is also the only styrene monomer producer in Indonesia with a capacity of 340,000 tonnes per annum.
- The EPC contractor of the project is the Japanese company Mitsubishi Heavy Industries (MHI).
- ThyssenKrupp provided engineering services to MHI. ThyssenKrupp was chosen by MHI due to their considerable expertise and experience in this field.



Case 22: Sabah Ammonia Urea Plant (SAMUR), a large-scale fertilizer plant

**PETRONAS Chemical
Fertilizer Sabah Sdn. Bhd.**

(large company)



**APEX Energy
Sdn. Bhd.**

(large company)



**PT Rekayasa Industri
(REKIND)**

(large company)



**Mitsubishi Heavy
Industries, Ltd.**

(large company)



Topsoe A/S

(large company)



Saipem S.p.A.

(large company)



ThyssenKrupp

(large company)



About the project:

- The SAMUR plant is located in Sipitang, Malaysia.
- In 2011, Mitsubishi Heavy Industries, Ltd. (MHI), APEX Energy Sdn. Bhd. of Malaysia, and PT Rekayasa Industri (REKIND) in Indonesia, received an order from Petronas Chemical Fertilizer Sabah Sdn. Bhd. (PCFSSB) for a project to construct a large-scale ammonia and urea fertilizer plant. PCFSSB is a subsidiary of PETRONAS Chemicals Group Berhad (PCG), which is an affiliate company of PETRONAS, the national oil company of Malaysia.
- The fertilizer plant used process technologies from three EU companies: Topsoe A/S, Saipem S.p.A., and Uhde Fertilizer Technology B.V., the latter being a subsidiary of ThyssenKrupp and which was involved through their office in the Netherlands.
- ThyssenKrupp has a general license agreement with MHI for the urea granulation technology. In addition, the German company has a separate license agreement with Petronas for this plant to cover after sales services and operational support.



Water & Waste Management



Case 23: Binh Hung sewage treatment plant

Urban-Civil Works Construction Investment
Management Authority of Ho Chi Minh City

(public sector)



+

Veolia / OTV

(large company)



+

Hitachi Ltd.

(large company)



+

Posco E&C

(large company)



Consortium

About the project:

- In 2014, Hitachi Ltd. and OTV, Veolia's water subsidiary, signed a Memorandum of Understanding (MoU) to partner on municipal water treatment and sewage, seawater reverse osmosis desalination and industrial water projects in the regions of Africa, MENA and Southeast Asia.
- In addition, a consortium including Hitachi Ltd., OTV and the Korean firm Posco E&C won a \$120 million project for a sewage treatment plant in Ho Chi Minh City, Vietnam. The project was ordered by the Urban Civil Works Construction Investment Management Authority of Ho Chi Minh City and aims at the expansion of the sewage treatment facility.
- The project aims at meeting the growing needs of Ho Chi Minh City, largest city in Vietnam, which has seen its volume of industrial and domestic wastewater surge with its rapid industrialisation and urbanisation. The objective would be to improve urban and domestic sanitation by increasing the daily processing capacity of the sewage treatment plant from 141,000 m³ to 469,000 m³, to meet the needs of approximately 1.4 million people.
- This is the second large-scale joint project between Hitachi Ltd. and OTV which have worked together for a desalination plant and pre-treatment facilities in Iraq from 2014.

Funding:

- The project was funded with loan assistance from the Japanese government.

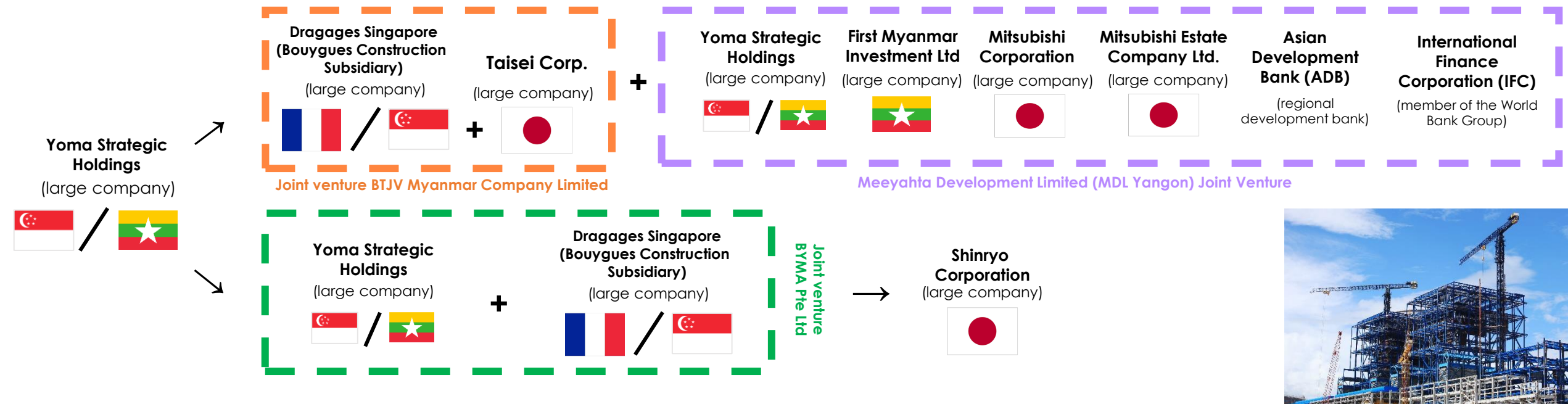


Construction



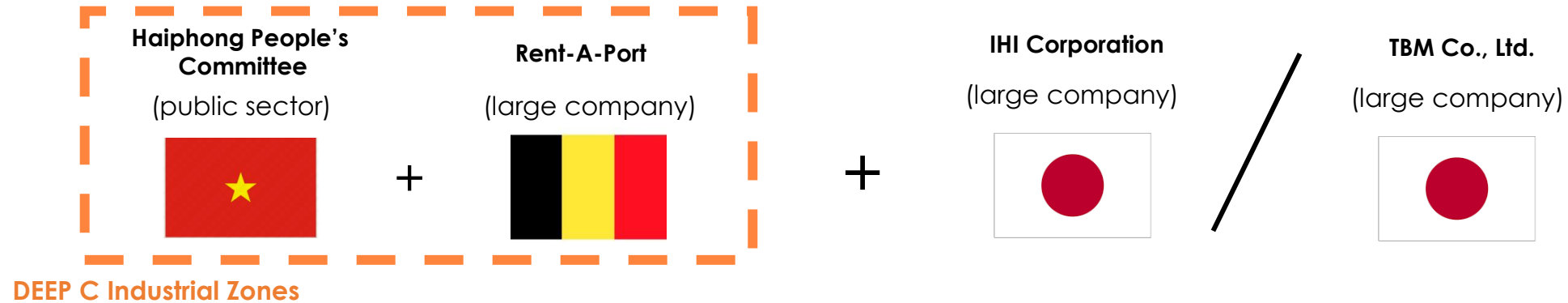
Construction (Myanmar – Japan – France, 2017)

Case 24: Construction projects in Yangon

**About the project:**

- In 2017, Yoma Strategic Holdings Ltd. announced the signature of an agreement with EU and Japanese construction companies for two projects: Yoma Central and The Peninsula Yangon located in central Yangon, Myanmar. The two projects will feature luxury residences, office towers, a business hotel, a luxury hotel, serviced apartments, and a retail podium connecting each element.
- The combined contract value of the two projects is over \$400 million, for a total built area of around 265,000 m². The main works contracts include civil, structural, architectural, mechanical, electrical, plumbing and heritage works.
- For Yoma Central, the developer is the Meeyahta Development Limited joint venture, and the building contractor is BTJV Myanmar Company Limited, a joint venture between Dragages Singapore Pte Ltd, a subsidiary of Bouygues Construction, and Taisei Corporation.
- For the Peninsula Yangon, the building contractor is BYMA Pte Ltd, a joint venture between Dragages Singapore Pte Ltd and Yoma Strategic Holdings.
- The EU and Japanese companies complement each other in these projects by leveraging their own strengths. Bouygues Construction has experience in the field of heritage conservation, with a history of projects that include prestigious historic hotels in Europe. Taisei Corporation is one of the biggest construction companies in Japan and was involved in large projects such as the New Doha International Airport in Qatar, and the New National Stadium in Japan.
- As for Shinryo Corporation, the Japanese company received a large-scale redevelopment construction order of automatic control service work for the Yoma Central Project. The order was placed by BYMA Pte Ltd.

Case 25: MoU between DEEP C Industrial Zones and Japanese Companies in Vietnam



About the project:

- The Haiphong - Japan Investment Promotion Conference 2023, co-organised by Haiphong People's Committee, Vietnamese Embassy in Japan, the Japan Trade Promotion Organisation (JETRO) and the ASEAN - Japan Center took place in the northern port city of Haiphong from June 15 to 18, 2023.
- Within this framework, DEEP C Industrial Zones signed a memorandum of understanding (MoU) with two Japanese companies, IHI Corporation and TBM Co., Ltd.
- DEEP C Industrial Zones is a Belgian developer and operator of an Industrial zone and port infrastructure cluster in Haiphong and Quang Ninh province. It was established by Belgian investor Rent-A-Port and Haiphong People's Committee in 1997.
- IHI plans to study clean energy solutions that will be effective in DEEP C Industrial Zones by utilising its products and technologies that contribute to CO2 reduction.
- TBM is commercialising its new, recycled materials that are alternative to plastic and paper. It will consider the business feasibility of the resource recycling business in DEEP C Industrial Zones and Vietnam.

