

ABB in Thailand Group of companies

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ABB Automation (Thailand) Co., Ltd. 161/1 SG Tower 1st - 4th Fl., Soi Mahadlekluang 3 Rajdamri Rd., Lumpini, Pathumwan, Bangkok, Thailand, 10330

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ABB Electrification (Thailand) Co., Ltd. 161/1 SG Tower 1st - 4th Fl., Soi Mahadlekluang 3 Rajdamri Rd., Lumpini, Pathumwan, Bangkok, Thailand, 10330

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Manufacturing plant 297 Moo 4, Bangpoo Industrial Estate, Soi 6, Sukhumvit Road, Praeksa Samutprakarn, Thailand, 10280

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ABB in Thailand company profile



ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, **ABB pushes the boundaries** of technology to drive performance to new levels.



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History of the ABB Group

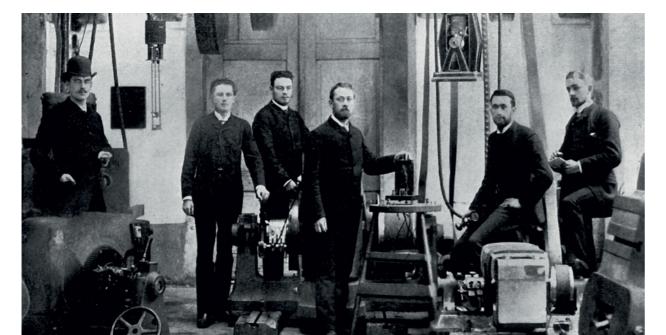
The ABB Group was formed in 1988 through a merger between Asea AB and BBC Brown Boveri AG.

The ABB Group was formed in 1988 through a merger between Asea AB and BBC Brown Boveri AG. Initially founded in 1883, Asea AB was a major participant in the introduction of electricity into Swedish homes and businesses and in the development of Sweden's railway network. In the 1940s and 1950s, Asea AB expanded into the power, mining and steel industries. Brown Boveri and Cie. (later renamed BBC Brown Boveri AG) was formed in Switzerland in 1891 and initially specialized in power generation and turbines. In the early to mid-1900s, it expanded its operations throughout Europe and broadened its business operations to include a wide range of electrical engineering activities.

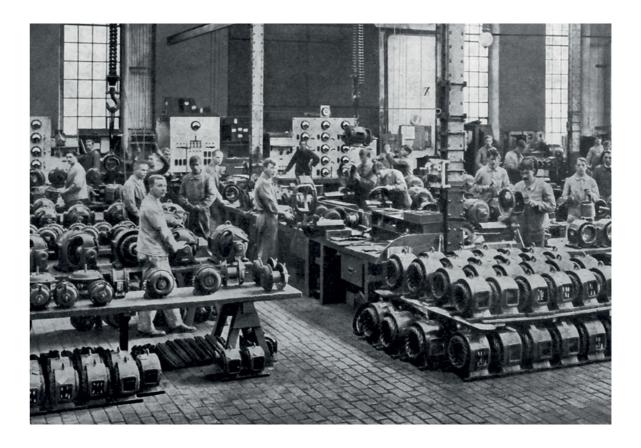
In January 1988, Asea AB and BBC Brown Boveri AG each contributed almost all their businesses to the newly formed ABB Asea Brown Boveri Ltd, of which they each 50 percent. In 1996, Asea AB was renamed ABB AB and BBC Brown Boveri AG was renamed ABB AG. In February 1999, the ABB Group announced a group reconfiguration designed to establish a single parent holding company and a single class of shares. ABB Ltd was incorporated on March 5, 1999, under the laws of Switzerland.

In June 1999, ABB Ltd became the holding company for the entire ABB Group. This was accomplished by having ABB Ltd issue shares to the shareholders of ABB AG and ABB AB, the two companies that formerly owned the ABB Group. The ABB Ltd shares were exchanged for the shares of those two companies, which, as a result of the share exchange and certain related transactions, became whollyowned subsidiaries of ABB Ltd.

ABB Ltd shares are currently listed on the SIX Swiss Exchange, the NASDAQ OMX Stockholm Exchange and the New York Stock Exchange (in the from of American Depositary Shares).









04

01 Three pioneers in electrical engineering. In 1888, three years before the Swiss BBC company was founded, Charles E.L.Brown (left) and Walter Boveri (second from the left) met Oskar von Miller (third from the right) in Oerlikon near Zurich. The three were destined to play a central role in history of electrical engineering.

02 Transformer in the old Trafo Factory in Baden during the BBC years.

03 First workshop at BBC in Baden, 1892.

04 At the beginning of the 20th century, electric motors began to replace steam engines as the main source of power for machinery BBC alternating current motors for one-, two-and threephase current played an important part in this development.

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ABB in Thailand

ABB has a history embedded in the development of Thailand's utility and industrial sectors since the first motor delivery to Siam Cement in 1913.



ABB has a history embedded in the development of Thailand's utility and industrial sectors since the first motor delivery to Siam Cement in 1913. ASEA and BBC first established in Thailand in 1978 and 1982 respectively. In 1988, ABB established in Thailand by merging of ASEA and BBC. The Head Office located in Bangkok, and our manufacturing base is located in the Bangpoo Industrial Estate. Here, we have access to our manufacturing plants for our medium voltage switchgear and low voltage switchgear.

To strengthen our after sales service and to serve our customers nationwide, ABB has established:

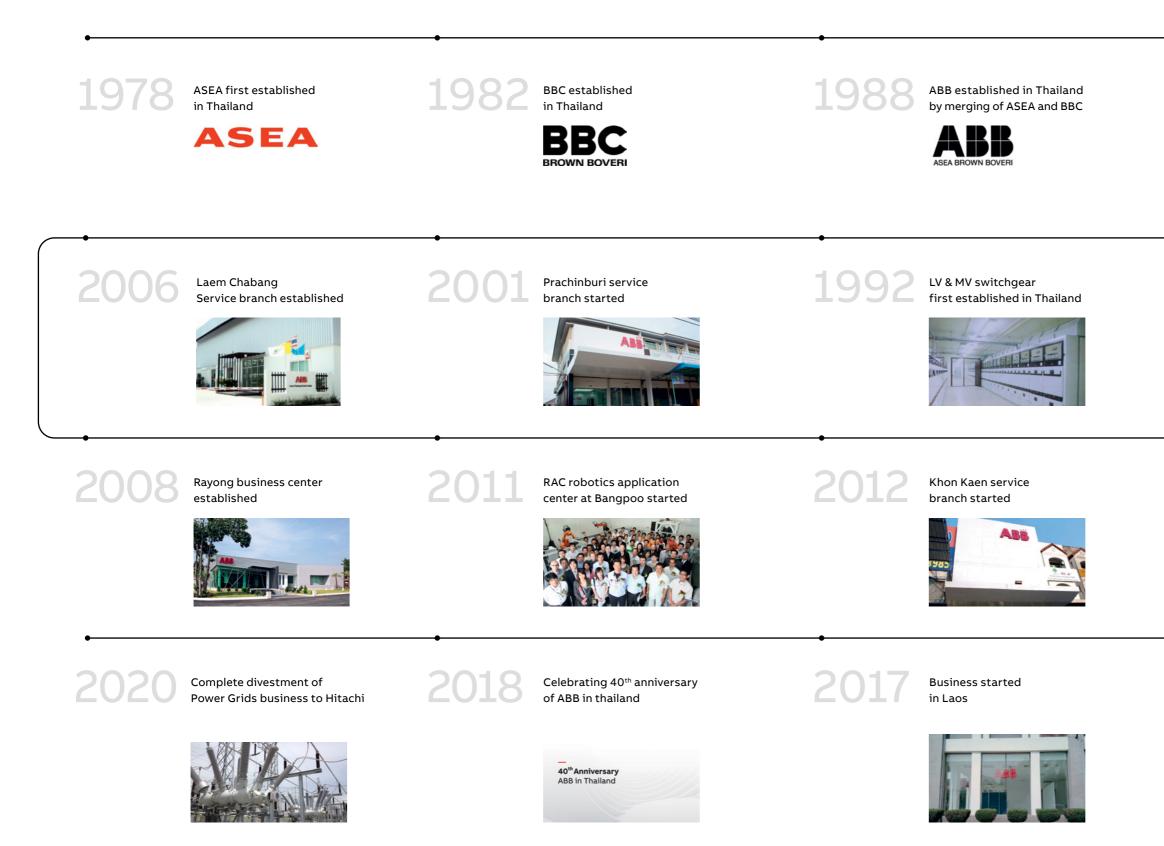
- Rayong Business Center in Rayong
- Service branches at Laem Chabang, Saraburi, Prachinburi and Khon Kaen
- Robotic Application Center in Samutprakarn
- Representative office in Myanmar

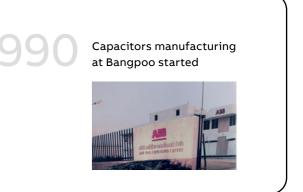
For more than four decades that ABB has been collaborating with individuals, authorities, and organizations, especially customers in the utilities and industrial sectors as well as in the transport and infrastructure sector to support the growth of Thailand's economy.

> We will continue to deliver technologies and solutions that enable customers to develop their capabilities and improve competitiveness to ensure sustained profitable growth



Key milestones





1991

Bangpoo power transformers manufacturing started





Business started in Myanmar



2016

Business started in Cambodia



Businesses in ABB

Electrification

Innovates for a safe, smart and sustainable future

ABB offers a full range of technologies across the electrical value chain from substation to the point of consumption to improve the reliability and efficiency for low- and medium voltage electrical installations, including EV infrastructure, modular substations, distribution automation, switchgear, measuring and sensing devices, control products, including KNX systems for home and building control, wiring accessories, enclosures and cabling systems and power protection.

Our portfolio:

Smart Buildings

- Home and Building Automation
- Conventional Wiring Accessories
- DIN-Rail Products
- Distribution Enclosures

Smart Power

- Breakers & Enclosures
- EV Charging Infrastructure
- Motor Starting & Safety

- NEMA Enclosed Products
- Power Protection
- Switches & Fuse gear

Installation Products

- Wire and cable management
- Connectivity and grounding
- Boxes and fittings

Distribution Solutions

- Low Voltage Switchgear System
- Distribution Automation
- Instrument Transformers & Sensors
- Outdoor and Indoor Products
- Medium Voltage Primary/Secondary AIS
- Medium Voltage Primary/Secondary GIS
- Cable protection systems
- Cable accessories and apparatus
- Packaging & E-House
- Compact Secondary Substation
- Energy Storage Module
- Low Voltage Busway





Process Automation Writing the future of safe and smart operations

The main focus of the business is to provide customers with products and solutions for instrumentation, automation and optimization of industrial processes. The industries served include oil and gas, power, chemicals and pharmaceuticals, pulp and paper, metals and minerals, marine and turbocharging. Key customer benefits include improved asset productivity and energy savings.

Our portfolio:

- Process Control System
- Process Safety System
- Control room solutions
- Remote monitoring and Operations room
- Electrical houses (e-Houses)
- Excitation System
- Flame scanner System
- Turbine control System
- Pumping solutions
- · Power management system

- Electrical control system
- Energy management system
- Terminal Management system
- Condition monitoring system
- Manufacturing Execution System
- Advance Process Control
- Process Performance Optimization
- Data Center Automation
- Process simulation
- Electrification and plant engineering
- Paper machine measurements
- Paper machine actuators
- Laboratory Paper Testing
- Web Imaging and Web Monitoring
- Field instruments
- Force Measurements
- Analytical Measurement
- Recorders and Controllers
- Turbocharging

Motion

Writing the future of smart motion

Motion business is the largest supplier of drives and motors, globally. We provide customers with the complete range of electrical motors, generators, drives and services, as well as mechanical power transmission products and integrated digital powertrain solutions. We serve a wide range of automation applications in transportation, infrastructure, the discrete and process industries.

Our portfolio:

Drives

- AC Drives for Low and Medium Voltage
- Micro drives
- General purpose drives
- Machinery drives
- Industrial drives
- Industry specific drives
- Motion control drives
- Special purpose drives

• DC Drives

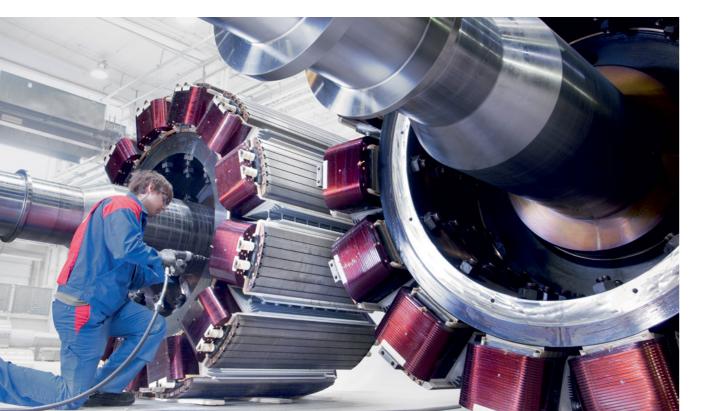
- Thyristor Power Controllers
- Programmable Logic Controllers
- Softstarters
- Traction Converters
- Drive Spare Parts and Service

Motors and Generators

- IEC Low Voltage Motors
- Large Motors and Generators
- NEMA Motors
- Motor Spare Parts and Services

Mechanical Power Transmission

- Conveyor components
- Couplings
- Gearing
- Mounted bearings





Robotics and Discrete Automation

Writing the future of flexible manufacturing and smart machines

Robotics & Discrete Automation business provides value-added solutions in robotics, machine and factory automation. Our integrated automation solutions, our application expertise across a wide scope of industries and our global presence deliver tangible customer value. Our focus on innovation includes extensive work in artificial intelligence, an ecosystem of digital partnerships and the expansion of our production and research capabilities through our \$150-million investment in a new world-class robotics factory in Shanghai.

Our portfolio:

- Robotics product and peripheral equipment
- Machine and Factory Automation
- Robotics Applications and Systems
- Robot Application Center for SEA region
- Complete robotics services

Writing the digital future with ABB Ability™

Writing the future of industries ABB Ability[™] was launched in 2017 and offers more than 200 digital solutions which enable enterprises to increase productivity and safety at lower costs. With ABB Ability™, ABB taps into the rapidly growing market of automation for industrial companies, known as the Internet of Things (IoT).

Creating customer value

ABB Ability[™] combines ABB's entire portfolio, bringing together over four decades of industrial digital leadership, advanced connectivity and the latest digital technologies to create unparalleled customer value.

The future of digitalization for our customers

Change will not occur overnight. To keep up, it's time to actively shape the changes your business

requires, and support your digital transformation

with innovative products and solutions.

in the Energy and Fourth Industrial Revolutions ABB Ability[™] supports Digital Transformation in the Energy and Fourth Industrial Revolutions by helping you achieve unprecedented improvements in your business's operational performance and productivity. And, even better, we do it fast.

> Connecting customers to the Industrial IoT

Supporting Digital Transformation (DX)



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our services

Integrating and optimizing



Turning raw data into insights and action

Delivering solutions safely, securely and sustainably

Learn how we can support your digital transformation



ability.abb.com



ability.abb.com/ solutions/catalog



Key references

Utilities

Electricity Generating Authority of Thailand (EGAT)

EGAT Bhumibol Hydro Power Plant

ABB supplied modernized DCS for all 8 units with ABB latest technology 800xA system which were installed at Bhumibol Dam in Tak province

EGAT Sirikit Hydro Power Plant

ABB has successfully supplied and upgraded Excitation system for 4 units to UNITROL 6000 dual channel static excitation for EGAT Sirikit Hydro power plant in Utaradit province

EGAT Mae Moh Coal Fired Power Plant

- ABB supplied and installed DCS upgrade to new Symphony plus control system for all Power Plant Unit 8-13 at Mae Moh Lampang Province
- ABB supplied and upgraded Flame Scanner Power Plant Unit 8-12 ABB AbilityTM Symphony[®] Plus - Multi Fuel Safe Flame Scanner UvisorTM SF810 Series







Water plants

Metropolitan Waterworks Authority

Mahasawat Raw Water Pumping Station No.2 ABB supplied 2 sets of MV Drive (ACS1000) capacity 600kVA completed with Converter Transformer, MV Induction Motor 3.3kV 430kW 10 Poles and 7.2kV MV Switchgear for Pump No.4&5 including service of installation and commissioning works

Mahasawat Transmission Pumping Station

ABB supplied 1 set of MV Drive (ACS1000) capacity 2500kVA completed with Converter Transformer, MV Induction Motor 3.3kV 1900kW 10 Poles and 7.2kV MV Switchgear for Pump No.4 including service of installation and commissioning works

Power plants

Gulf JP Co., Ltd.

Gulf JP Co.,Ltd. for 110-120 MW Combined Cycle Power Plant, 22kV & 6.6kV Switchgear total 266 panels for 12 small power plants at 7 sites in 4 provinces; Saraburi, Pathumthani, Chaechoengsao and Rayong.

Bangkhen Transmission Pumping Station No.3 ABB supplied 2 sets of MV Drive (ACS1000 capacity 2500kVA completed with Converter Transformer, MV Induction Motor 3.3kV 1900kW 16 Poles and 7.2kV MV Switchgear for Pump No. 17&18 including service of installation and commissioning works

Bangkhen Transmission Pumping Station No.2 ABB supplied 1 set of MV Induction Motor 6.6kV 1900kW 16 Poles and 7.2kV MV Switchgear for Pump No.7 including service of installation and commissioning works





Thai Petroleum Pipeline Co., Ltd. (THAPPLINE)

ABB supplied two new pumping units the centrifugal pump P-201D/E to be installed as part of Sriracha- Saraburi Multi product pipeline system.

The works to be done this contract to furnishing, testing, installation supervision and commissioning of pumping unit including motor, VSD, transformer, pump control panel, recirculation check valve and other accessories to complete the requirement of the contract

Process industries

Electricity Generating Authority of Thailand (EGAT), Mae Moh IX coal mine

ABB supplied electrical, drives and automation system for Bucket Wheel excavator, Spreader and Belt wagon for the Overburden removal for Coal Mine project 9.

Mitr Phol Group

The world's third largest sugar producer and currently operates six sugar mills in Thailand has chosen ABB Ability™ technologies to help meet their goals of plant reliability and availability. ABB delivered products that enable total control of the processes at the sugar plants and biomass power plant, providing precise operational information to make the right decisions at the right time.

Siam Mortar

ABB supplied the integrated system of LV Switchgear and 800xA system of which the formula program was developed and innovated by Siam Mortar and ABB.

Siam Cement Group (SCG), Tha Luang in Saraburi Province.

ABB installed ACS880 series drives along with ABB motors for better cement kiln control and reduced energy consumption. The drives included the new ABB AbilityTM mobile application, ABB Drivetune.





Double A

ABB supplied Medium Voltage Switchgear, Motor and Sectional Drives for Paper Machine and Winders at PM3, Banpong Complex for their revamping project.





Oil, gas and petrochemical

IRPC Public Company Limited

ABB dismantled and re-installed 6.8 MW, 6.6 kV motor, MV drive ACS5000 water cooled and transformer including testing and commissioning system for Wet Gas compressor at IRPC plant in Rayong province.

Thai Oil Public Co., Ltd.

ABB supplied an automation system for the Power Management System (PMS) to its refinery plant located near Laem Chabang Port in Sriracha, Chonburi.

PTT LNG Co., Ltd

ABB supplied an automation system for Power Management system, Medium Voltage & Low Voltage Switchgear as the power supply to LNG receiving terminal project in Nongfab, Rayong.

Siam Cement Group (SCG)

ABB supplied the ABB AbilityTM System 800xA in Siam Cement Kaengkhoi, Lampang and Thung Song Plant.

Siam City Cement

ABB supplied the ABB AbilityTM Knowledge Manager in SCCC Kaengkhoi plant to analytical insights to identify best practices and improve their overall operation at plant and corporate levels

Double A, one of Asia's leading pulp and paper producers, has selected ABB Ability™ Advanced Process Control (APC) for its pulp mill in Prachinburi, Thailand. It includes full supply and implementation of ABB's OPT800 Caust and OPT800 Lime APC applications for better control of the causticizing and lime production processes.

Siam Kraft Industry Co., Ltd



General Industries

East water

ABB MV Switchgear is a part of East Water projects which have been supplying raw water to industrial estates, factories and water works in the Eastern Seaboard area.

Thai Summit group

ABB supplied Thai Summit Group (TSG), the leading auto parts manufacturer of Thailand with the IRB1520ID robot for Arc-welding application and IRB6700 for Spot-welding process at its plants in Ayutthaya and Rayong. The robots deliver stable welding, excellent path accuracy with short cycle times for their process.

NIDEC Group

ABB supplied IRB1600 and IRB2600 with foundry options for handling application in tough environment to help NIDEC group increase output with higher process speeds and lower scrap rates. Nidec Group specializes and handles HDD Base Frame product.

Charoen Pokphand Foods PCL

ABB supplied IRB660, a dedicated palletizing robot, to all CPF's livestock feed factories in Thailand. With IRB660, their palletizing process can perform faster and shorter cycle times.

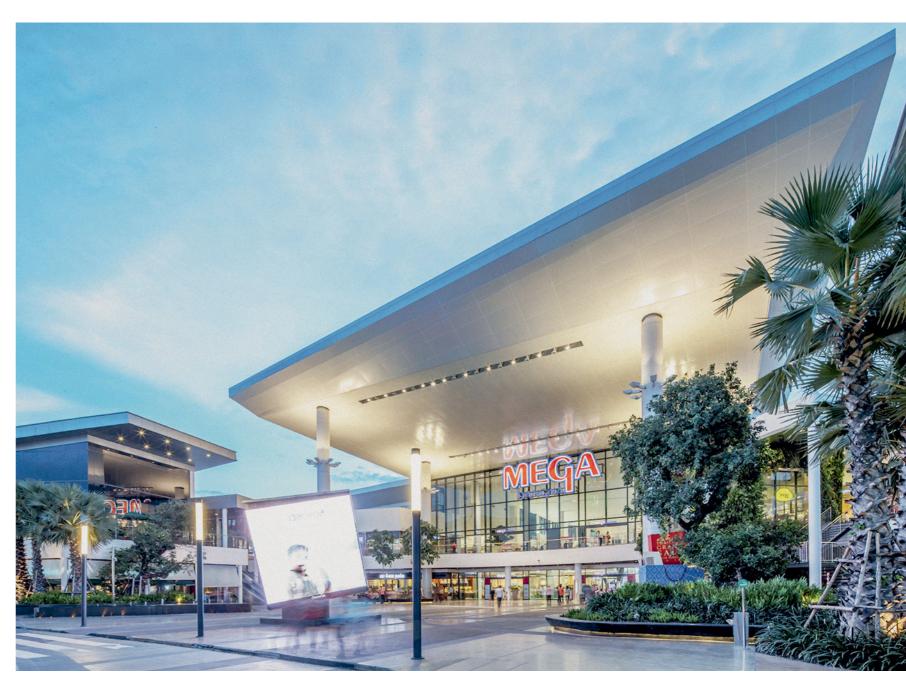
Ajinomoto Group's Ayutthaya factory

Ajinomoto chose ABB's compact power management system which is ABB Distribution Automation Solution to ensure continuous uptime of the plant's main process as well as safety and efficiency in the production.

Cargill

ABB supplied stainless steel washdown motors to Cargill Meats (Thailand) Limited in Nakhon Ratchasima to ensure efficient and reliable operations, helping meet the high quality and safety standards of the customer and the increasing demand for chicken products.





Commercial Buildings

Suvarnabhumi Airport

Suvarnabhumi Airport is powered and automated by an extensive range of ABB products and systems, including an energy-efficient intelligent system that controls and monitors every single light in one of the world's largest airport terminals.

MEGA Bangna

ABB supplied 10 panels of 24kV 25kA UniGear Type ZS1 for main substation, 32 feeders of 24kV Ring Main Unit for Mega Bangna project.

Blúport Hua Hin Resort Mall

ABB has supplied a Secondary Gas Insulated Switchgear (SGIS) substation package and associated electrical equipment, including power transformers and medium voltage switchgear.

Siam Paragon & other department stores

ABB supplied 24 kV Switchgears to Siam Paragon and other department stores.





Transportation

Mass Rapid Transit Authority of Thailand (MRTA), purple line Bangyai-Bangsue Section

ABB supplied Low Voltage Switchgear, ArTu K including Low Voltage equipments; Low Voltage circuit breaker and control products.

State Railway of Thailand - Red Lines elevated rail system in Bangkok

ABB supplied include 24kV main ring unit, 24kV and 25kV switchgear. The Red Line will connect the Bangkok region with north, east, south and west suburban areas, making life simpler for the 131,000 daily commuters when it is pressed into service.

Provincial Electricity Authority – EV charging station project

ABB will supply 150 units of Terra 54 chargers, the cost effective multi-standard AC and DC fast charger, to PEA. The chargers will be installed at Bangchak Petrol station 62 locations covering 40 provinces in Thailand. KEY REFERENCES

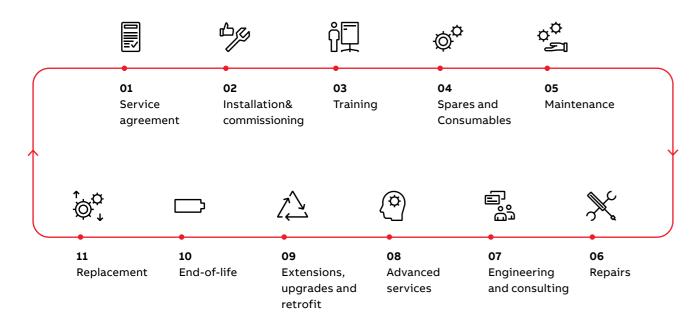
ABB service ABB Ability[™] collaborative operations

Enabling customers to remotely collaborate & optimize with ABB domain experts 24/7 across industries

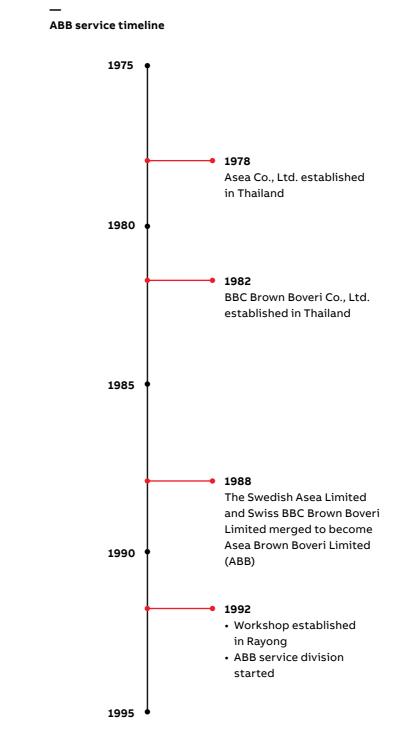
Highlights of ABB service

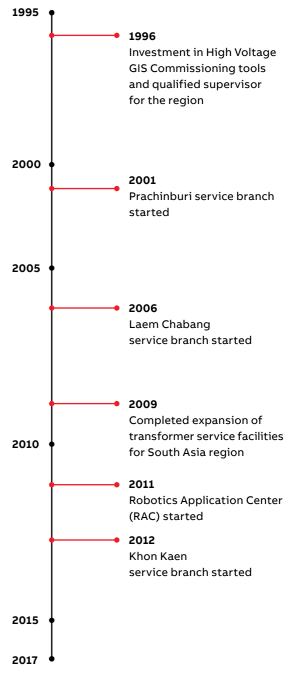
- All about service: www.abb.com/service
- Information on ABB Ability[™] Solutions: Customer portal
- Customer Installed Base Management tools
 myABB and myIB
- Over 100 professional services staffs available to support ABB's customers
- Over 30 years of experience in service operations
- Continuously develop and practice our service personnel through ABB global network
- personnei through ABB global network
- State-of-the-art service tools and facilities Keep track customer life cycle phase through our own installed base tool
- Utmost pride in our policy of providing the best service and reliability to our customers



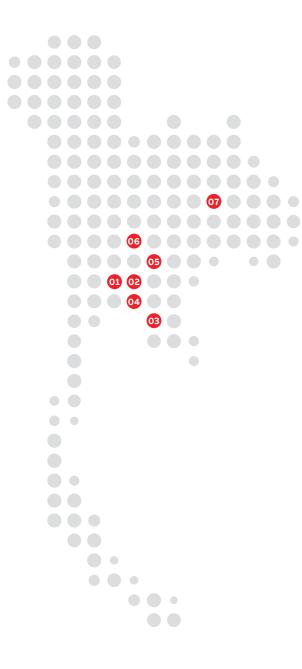








Branches and locations





Head Office, Bangkok

- Engineering Center
- Service Center
- Training CenterDemonstration Facilities
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Manufacturing plants: Bangpoo industrial estate, Samutprakarn

- Medium & Low
- Voltage Switchgear
- Robotics Application Center
- ABB Innovation Center

03



- **Rayong Business Center**
- Complete industrial
- services
- Electrical & instrument contracting services
- Complete transmission & distribution services
- Automation products office training & demonstration facilities



Laem Chabang service branch



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Prachinburi service branch
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Saraburi service branch



Khon Kaen service branch



