

ABB Group



Type	Public
Traded as	SIX: ABBN NYSE: ABB Nasdaq Stockholm: ABB
ISIN	CH0012221716 
Industry	Electrical equipment <ul style="list-style-type: none">• Allmänna Svenska Elektriska Aktiebolaget (1883) of Sweden• Brown, Boveri & Cie (1891) of Switzerland• Both companies survived until 1999 when ABB ceased to be dual-listed
Predecessor	
Founded	1988
Headquarters	Zurich, Switzerland
Area served	Worldwide
Key people	Peter Voser (Chairman , ad interim CEO), Björn Rosengren (CEO from March 2020)
Products	Power , Automation
Revenue	 US\$27.662 billion (2018) ^[1]
<u>Operating income</u>	 US\$2.226 billion (2018) ^[1]
<u>Net income</u>	 US\$2.173 billion (2018) ^[1]
<u>Total assets</u>	 US\$44.441 billion (2018) ^[2]
<u>Total equity</u>	 US\$14.534 billion (2018) ^[2]
Owner	Investor AB (11.5%) ^[3]
Number of employees	147,000 ^[4]

Website www.abb.com

ABB (**ASEA Brown Boveri**) (**SIX**: [ABBN](#), **NYSE**: [ABB](#), **Nasdaq Stockholm**: [ABB](#)) is a Swiss-Swedish [multinational corporation](#) headquartered in [Zurich](#), [Switzerland](#), operating mainly in [robotics](#), [power](#), heavy electrical equipment, and [automation](#) technology areas. It is ranked 341st in the [Fortune Global 500](#) list of 2018 and has been a global [Fortune 500](#) company for 24 years.^[5]

ABB is traded on the [SIX Swiss Exchange](#) in Zürich, [Nasdaq Stockholm](#) and the [New York Stock Exchange](#) in the United States.^[6]



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History

Predecessor companies

See also: [Allmänna Svenska Elektriska Aktiebolaget](#) and [Brown, Boveri & Cie](#)

Allmänna Svenska Elektriska Aktiebolaget (General Swedish Electrical Limited Company, ASEA) was founded in 1883 by Ludvig Fredholm^[7] in [Västerås](#) as manufacturer of electrical light and generators.^[8] [Brown, Boveri & Cie](#) (BBC) was formed in 1891 in Baden, Switzerland, by [Charles Eugene Lancelot Brown](#) and [Walter Boveri](#)^[9] as a Swiss group of electrical engineering companies producing AC and DC motors, generators, steam turbines and transformers.

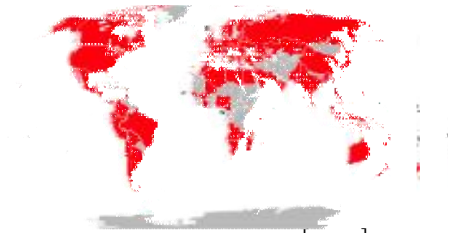


ABB around the world. [\[vague\]](#)

Formation and early years

On 10 August 1987, ASEA A.B. and BBC A.G. announced they would merge to form ABB Asea Brown Boveri Ltd. The new corporation was to be based in Zurich, Switzerland, with each parent company holding 50 percent. At the time, both companies were considered leaders in a field then known as the "electrotechnical industry." The merger between these two medium-sized companies created a global industrial group with revenue of \$18 billion and 160,000 employees.

When ABB began operations on January 5, 1988, its core operations included power generation, transmission and distribution; electric transportation; and industrial automation and robotics.

In its first year, ABB made some 15 acquisitions, including the environmental control group Fläkt AB of Sweden, the contracting group Sadelmi/Cogepi of Italy, and the railway manufacturer Scandia-Randers A/S of Denmark.

In 1989, ABB purchased an additional 40 companies, including Westinghouse Electric's transmission and distribution assets, and announced an agreement to purchase the Stamford, Connecticut-based Combustion Engineering (C-E). These two major acquisitions broadened ABB's worldwide power transmission and distribution operations within the United States.

The following year, ABB bought the robotics business of Cincinnati Milacron in the US. The acquisition expanded ABB's presence in automated spot-welding and positioned the company to better serve the American automotive industry. ABB's 1991 introduction of the IRB 6000 robot, demonstrated its increased capacity in this field. The first modular robot, the IRB 6000, can be reconfigured to perform a variety of specific tasks. At the time of its launch, the IRB 6000 was the fastest and most accurate spot-welding robot on the market.

In the early 1990s, ABB started expanding in Central and Eastern Europe. By the end of 1991, the company employed 10,000 people in the region. The following year, that number doubled. A similar pattern played out in Asia, where economic reforms in China and the lifting of some Western sanctions, helped open the region to a new wave of outside investment and industrial growth. By 1994, ABB had 30,000 employees and 100 plants, engineering, service and marketing centers across Asia - numbers that would continue to grow. Through the 1990s, ABB continued its strategy of targeted expansion in Eastern Europe, the Asia-Pacific region and the Americas.

In 1995, ABB agreed to merge its rail engineering unit with that of Daimler-Benz AG of Germany. The goal was to create the world's largest maker of locomotives and railway cars. The

new company, ABB Daimler-Benz Transportation (Adtranz), had an initial global market share of nearly 12 percent.

A few months after the July 1997 Asian financial crisis, ABB announced plans to accelerate its expansion in Asia. The company also acted to improve the productivity and profitability of its Western operations, taking an \$850 million restructuring charge as it shifted more resources to emerging markets and scaled back some facilities in higher-cost countries.

In 1998, ABB acquired Sweden-based Alfa Laval's automation unit, which at the time was one of Europe's top suppliers of process control systems and automation equipment.^[10]

As a final step in the integration of the companies formerly known as ASEA and BBC, in 1999 the directors unanimously approved a plan to create a unified, single class of shares in the group.

That same year, ABB completed its purchase of Elsag Bailey Process Automation NV, a Netherlands-based maker of industrial control systems, for \$2.1 billion.^[11] The acquisition increased ABB's presence in the high-tech industrial robotics and factory control system sectors, which reducing its reliance on traditional heavy engineering sectors such as power generation and transmission.

Shift in business focus

In 1999, the company sold its stake in the Adtranz train-building business to DaimlerChrysler. Instead of building complete locomotives, ABB's transportation activities shifted increasingly toward traction motors and electric components.^[12]

That same year, ABB and France-based Alstom, announced the merger of their power generation businesses in a 50-50 joint company, ABB Alstom Power. Separately, ABB agreed to sell its nuclear power business to BNFL of Britain.^[13]

In 2000, ABB divested its interests in ABB Alstom Power and sold its boiler and fossil-fuel operations to Alstom.^[14] Thereafter, ABB's power business was focused on renewable energy and transmission and distribution.

In 2002, ABB announced its first-ever annual loss, a \$691 million net loss for 2001.^[15] The loss was caused by ABB's decision to nearly double its provisions for settlement costs in asbestos-related litigation against Combustion Engineering in the US from \$470 million to \$940 million. The claims were linked to asbestos products sold by Combustion Engineering prior to its acquisition by ABB.

At the same time, ABB's board announced it would seek the return of money "paid in excess of obligations to Goran Lindahl and to Percy Barnevik," two former chief executive officers of the group. Barnevik received some \$89 million in pension benefits when he left ABB in 2001; Lindahl, who succeeded Barnevik as CEO, had received \$50 million in pension benefits.^[16]

In 2006, ABB put an end to its financial uncertainties by finalizing a \$1.43 billion plan to settle asbestos liabilities against its US subsidiaries, Combustion Engineering and ABB Lummus Global, Inc.^[17] In August 2007, ABB Lummus Global, ABB's downstream oil and gas business, was sold to CB&I.^[17] In 2004, ABB had sold its upstream oil and gas business, ABB Vetco Gray. ABB's plan going forward was to support the oil and gas industry with its core automation and power technology businesses.

In 2008, ABB agreed to acquire Kuhlman Electric Corporation, a US-based maker of transformers for the industrial and electric utility sectors. In December 2008, ABB acquired Ber-Mac Electrical and Instrumentation to expand its presence in Western Canada's oil and gas industries.

On 10 January 2011, ABB invested \$10 million in ECOtality, a San Francisco-based developed of charging stations and power storage technologies, to enter North America's electric vehicle charging market.^[18] On July 1, ABB announced the acquisition of Epyon B.V. of the Netherlands, an early leader in the European EV-charging infrastructure and maintenance markets.^[19]

In 2011, ABB acquired Baldor Electric for \$4.2 billion in an all-cash transaction. The move aligned with ABB's strategy to increase its market share in the North American industrial motors business.^[20]

On 30 January 2012, ABB acquired Thomas & Betts, a North American leader in low voltage products for industrial, construction and utility applications, in a \$3.9 billion cash transaction.^[21] On June 15, 2012, it completed the acquisition of commercial and industrial wireless technology specialists Tropos.

In July 2013, ABB acquired Power-One in a \$1 billion all-cash transaction, to become the leading global manufacturer of solar inverters.^[22] Also in 2013, [Fastned \[nl\]](#) selected ABB to supply more than 200 Terra fast-charging stations along highways in the Netherlands. Ulrich Spiesshofer was named ABB's CEO, succeeding Joe Hogan.^[23]

On 6 July 2017, ABB announced it had completed its acquisition of Bernecker + Rainer Industrie-Elektronik (B&R), the largest independent provider of product and software-based, open-architecture for machine and factory automation.^[24]

In 2018, ABB became the title partner of the ABB FIA [Formula E](#) Championship, the world's first fully electric international FIA motorsport series.^[25]

On 30 June 2018, ABB completed its acquisition of GE Industrial Solutions, General Electric's global electrification business.^[26]

On 17 December 2018, ABB announced it had agreed to sell 80.1% of its Power Grids business to [Hitachi Ltd](#). The transaction, which places a value of \$11 billion on the business, is expected to close in the first half of 2020.^[27]

Major product launches and innovations

In 1990, ABB launched Azipod, a family of electric propulsion systems that extends below the hulls of large ships, providing both thrust and steering functions. Developed in corporation with the Finnish shipbuilder Masa-Yards, Azipod has demonstrated the viability of hybrid-electric power in seagoing vessels, while also increasing maneuverability, fuel efficiency and space efficiency.

In 1998, ABB launched the FlexPicker, a robot using a three-armed delta design uniquely suited to the picking and packing industry.

In 2000, ABB brought to market the world's first commercial, high-voltage, shore-to-ship electric power, at the Swedish port of Gothenburg. Powering berthed ships electricity from the shore, enables vessels to shut down their engines while in port, significantly reducing noise, vibrations and carbon emissions.

In 2004, ABB launched its Extended Automation System 800xA, an industrial system for the process industries. Today, the company is the global market leader in distributed control systems.

In 2014, ABB unveiled YuMi, a collaborative industrial robot. The innovative, dual-arm assembly robot permits people and machines to work side by side, unlocking new potential for automation in a range of industries.

In 2018, ABB unveiled the Terra High Power charger for electric vehicles, capable of delivering enough to charge in eight minutes to enable an electric car to travel 200 kilometers.

Electrification

ABB's Electrification business offers products and services from substation to socket. Customers include a wide range of industry and utility operations, plus commercial and residential buildings. The business has strong exposure to a range of rapidly growing segments, including renewables, e-mobility, data centers and smart buildings.

Its offerings include [electric vehicle infrastructure](#), [solar inverters](#), modular [substations](#), [distribution automation](#); products to protect people, installations and electronic equipment from [electrical overload](#) such as [enclosures](#), [cable systems](#) and [low-voltage circuit breakers](#); measuring and sensing devices, control products, [switches](#) and [wiring](#) accessories.

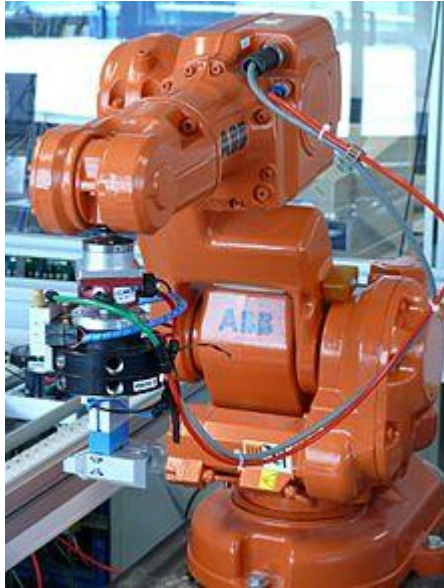
The business also offers [KNX systems](#) that integrate and automate a building's electrical installations, [ventilation systems](#), and security and data communication networks. Electrification incorporates an "Electrification Solutions" unit manufacturing low voltage [switchgear](#) and motor control centers.

The acquisition of GE Industrial Solutions, which closed in June 2018, further strengthened ABB's #2 global position in electrification.^[26]

Motion

ABB's Motion business provides a range of electrical motors, generators, drives and services, as well as integrated digital powertrain [solutions](#). Motion is the #1 player in the market globally.^[28]

Robotics and Discrete Automation



An ABB industrial robot.

ABB's Robotics & Discrete Automation business combines machine and factory automation systems, mainly from B&R, which ABB acquired in 2017, with a comprehensive robotics concepts and applications suite. ABB has installed over 300,000 robots globally. The Robotics & Discrete Automation business has been positioned to capture the opportunities associated with the "factory of the future" by providing services for flexible manufacturing and smart machinery. The business is #2 globally, with a #1 position in robotics in the high-growth Chinese market, where ABB is expanding its innovation and production capacity by investing in a new robotics factory in Shanghai.^[28]

Industrial Automation

The Industrial Automation business provides a range of services for process and hybrid industries, including its industry-specific integrated automation, electrification and digital services, control technologies, software and advanced services, as well as measurement & analytics, marine and turbocharging offerings.

Power Grids

The Power Grids business offers components for the [transmission](#) and [distribution](#) of electricity, and incorporates ABB's manufacturing network for [transformers](#), [switchgear](#), [circuit breakers](#),

and associated high voltage equipment such as [digital protective relays](#). It also offers maintenance services.

A key part of Power Grids' offering [turnkey](#) systems and service for power transmission and distribution grids and for [power plants](#); this includes [electrical substations](#) and substation automation systems [flexible AC transmission systems](#) (FACTS), [high-voltage direct current \(HVDC\)](#) systems, and network management systems. The division is subdivided into the four business units High Voltage Products, Transformers, Grid Automation and Grid Integration.

In December 2018, ABB and Hitachi Ltd. announced that Hitachi would take over ABB's power grid business for about \$6.4 billion. The transaction would be the Japanese conglomerate's biggest-ever deal as it shifts focus from nuclear plants to the higher-growth market for electricity networks.^[29]

As Formula E title sponsor

Prior to the [2016-17 Formula E season](#), it was announced that ABB would become the official title sponsor of [Formula E](#).

Other

In May 2013, [ABB Sécheron SA](#) joined with several groups in Geneva TOSA (Trolleybus Optimisation Système Alimentation, or in English, Trolleybus Power System Optimization) in a one-year demonstration of a trolleybus route using a novel charging system. Rather than overhead wires, charging is accomplished by fixed overhead devices located at stops along the route and at the terminus.^{[30][31][32]} Jean-Luc Favre, head of Rail ISI, discussed the promising role of improved electric transport technology in ABB.^[33]

Management

In August 2019, ABB announced industrial veteran Björn Rosengren will take over as CEO starting March 2020. Rosengren currently serves as chief executive officer of Swedish mining-equipment giant Sandvik AB. In the meantime, ABB Chairman [Peter Voser](#) was appointed interim CEO on 17 April 2019, succeeding Ulrich Spiesshofer, who stepped down after five-and-a-half years.^[34] Voser was elected Chairman of the Board of Directors in April 2015^[35] and succeeded Hubertus von Grünberg, who had been Chairman since May 2007. Jürgen Dormann was chairman from 2002 to 2007, and [Percy Barnevik](#) from 1999 to 2002.

Primary investors

The largest single stake in the firm is held by the Swedish [investment](#) company [Investor AB](#), controlled by the [Wallenberg family](#), which holds 11.5%.^[36]