

Flying with the dragon

ABB embraces a century of cooperation with China

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In 1907, the delivery of a steam boiler witnessed the first cooperation between ABB and China. A century later, the bilateral cooperation is reaching an unprecedented level. As an eyewitness, ABB has experienced a China rising up from isolation and poverty; as a participant, ABB has been proud of linking its name with many milestone projects in China; as a collaborator, ABB has become an integral part of China's economic and industrial development.

ABB in China

Today, ABB has established a full range of business activities in China, including research and development, manufacturing, and sales and service, with one holding company, 26 joint ventures and wholly owned companies, and an extensive sales and service network across 60 cities. In 2007, total revenue and orders in China rose to \$3.4 billion and \$4.1 billion, respectively, and the number of employees in China also increased to 12,800, turning China into ABB's number-one market in terms of revenue, order and employment.

In 2008, ABB continued its rapid progress with its footprint strategy in China, speeding up the expansion of its existing factories in many cities, launching the ABB transformer design center in Chongqing ¹, and setting up a new joint-venture company of ABB Tianjin Switchgear Co, Ltd and Tianjin Binhai Huineng Investment Co, Ltd.

ABB China is not only the global basis of ABB's manufacturing and sourcing, but also is a great contributor of technology, talents and more to the ABB portfolio.

Win-win cooperation

China, like a flying dragon, has injected strong power in the global economy, offering vast opportunities to such multinationals as ABB. And based on leading-edge products and technologies, ABB's business is flying with the giant dragon.

Facts speak for themselves: Since the first manufacturing joint venture was established in Xiamen, the number of employees at ABB China increased from 354 in 1992 to 12,800 in 2007, and the investment grew from \$10 million in 1992 to \$820 million in 2007.

ABB's localization process is accelerating. Currently, over 90 percent of ABB's businesses in China feature locally originated products and services, and 99 percent of ABB China's 13,000 employees are Chinese citizens. ABB China is also an exporter of product accessories, technical designs and services to 15 countries, including the United States, Germany, Switzerland and Sweden.

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The localization process is also being helped along by ABB's top executives. As active participants in the international advisory conferences held in Beijing, Shanghai, Chongqing and Guangdong, ABB leaders are contributing their expertise toward the local development in China.

Economic success

China's economic success has been good not only for China, but also for ABB. For example, ABB Chongqing Transformer Co, Ltd is the first joint venture approved by China's central government to produce power transformers with a voltage of 500 kV. The local government helped make this venture possible by building a special heavy road from the company to the river port to facilitate the transportation of the massive transformer.

In response to China's "Go West" strategy, ABB made the single largest investment in Chongqing. Today, ABB has two joint ventures in Chongqing and Xi'an – two important cities in China's west – and has established numerous branch offices in the west, including Chengdu, Kunming and Hohhot.

With a commitment of long-term development in China, ABB has dedicated itself to helping the country achieve its goal of energy efficiency and environmental sustainability.

Significant contributions

ABB is proud to have participated in many "power lines" in China, such as a major sports event in Beijing, the Three Gorges projects ² and the south-to-north water diversion project.

Factbox Recent significant contracts in China

- Two \$70 million orders from State Grid, including HVDC transformers in 2008
- \$35 million order for Shanghai, Tianjin and Shenzhen metro projects in 2008
- \$28 million contract to provide propulsion systems for China's largest semi-submersible heavy-lift vessels in 2008
- \$29 million traction transformer contract on China Railway's hi-speed sleeper car EMU project in 2008
- \$440 million order for the 800 kV 6,400 MW UHVDC project, the longest power link (Sichuan to Shanghai) in the world in 2007
- \$56 million from Sha Steel Group in 2007, the largest metal order for ABB
- \$65 million order from Shanghai Zhenhua Port Machinery for automation and power systems for 74 shipping cranes at Asian ports in 2007

¹ ABB launches its transformer design center in Chongqing.



For the sports event, ABB provided its leading-edge products and technologies to over 30 projects, including stadia, utilities (eg, the new Chaoyang 500kV substation) and metro/airport infrastructure constructions, all of which significantly added value to the event's high-tech and green themes **3**.

Backed by ABB's world-leading technologies and global resources, the high-voltage direct current (HVDC) power link connecting Three Gorges to Changzhou, Guangdong and Shanghai was successfully launched, providing timely clean power to the power-hungry areas in China's east. The three HVDC power links built by ABB saved enough power for 500,000 households.

ABB was chosen to supply its world-class drive technologies to the south-to-north water diversion project. The gigantic project will help move 44.8 billion m³ of water per year through three canals from the water-rich south to the drought-prone north in China.

In order to enable one million local residents to enjoy a comfortable room temperature above 18°C, even when the average outdoor temperature is -21°C, ABB completed one of the largest district heating projects in Daoli, Harbin, using recycled hot water from a local plant. The heating project helps eliminate 500,000 tons of greenhouse-gas emissions a year.

In 2008, ABB Beijing Drive Systems Co, Ltd completed its third expansion,

doubling the production capacity to meet the demands for energy-efficient drive products in China. Since its establishment, its drives have saved a total of 35 billion kWh of power for customers in China, enough to meet the needs of all the households in China's four municipalities – Beijing, Tianjin, Shanghai and Chongqing – for one year.

In Shanghai, ABB's tailor-made automation systems have helped the Luoqing Port to become the world's first automated bulk-cargo wharf to achieve a throughput of 37.8 million tons of cargo annually.

Currently, China's rail network constructions are entering into a booming period. ABB has provided various solutions to many key rail-transport projects in Guangzhou, Beijing, Shenzhen, Shanghai and Tianjin, all of which have good safety records.

ABB's contributions will go on, and the company has been steadily transferring more businesses and technologies to China. As a result, ABB has earned a number of significant contracts **Factbox**.

Research and development in China

Research and development is vital for ABB's technology leadership. In March 2005, ABB opened a new Corporate Research Center in Beijing with a branch in Shanghai, a concrete step to understand, foresee and support China's future in the power and automation industry. As an integral part of the ABB global research network, the

center in China focuses on power transmission and distribution, manufacturing and robotics.

ABB has also established research teams in each business division in China to maintain its leading position in the market. The ABB China High Voltage Technology Center is one of them, and was established in September 2007 in Beijing. The center aims to bring breakthrough technologies to the Chinese market and to contribute to global technology developments. The team is developing live and dead tank breakers, gas-insulated switchgears, instrument transformers, capacitors, surge arresters and accessories for cables.

In addition, each local ABB company in China has a technical team to cater to the needs of local markets. In 2008, the ABB Global Transformer Design Center was established in Chongqing, which turned ABB Chongqing Transformer Co, Ltd into a full-fledged global transformer base, combining design, manufacturing, engineering service and insulation-material supply. In fact, the center has also designed transformers for ABB customers in countries such as Sweden, Germany and the United States.

ABB accelerated its localization process by transferring technologies to China to reinforce local research and development as well as manufacturing capabilities. In early 2006, ABB relocated the headquarters of its global robotics business to Shanghai. In 2007, ABB's latest type of robot was

2 Three Gorges Dam



3 ABB's people power contributes to its success.



ABB in China

introduced into “local manufacture” in China, producing heavy industrial robots and controllers.

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Extraordinary capabilities have been displayed with the expansion of the research and development team in China. In 2007, for example, ABB Xiamen Switchgear Co, Ltd completed the grid power expansion project for the Guangzhou 110 kV Jiangnan sub-station with an innovative solution. The company’s service team took full advantage of the modular design characteristics of ABB’s MV switchgears to meet the requirements for the electricity capacity expansion and automation upgrading. By replacing some particular components, it enables successful upgrading of the whole system and helps customers save over \$700,000 and reduce the project throughput time to four weeks.

Another example of the contributions of the research and development group in China can be found in the textile industry. ABB Beijing Drive Systems Co, Ltd has developed application software for textile machinery, an entirely new technology in the textile industry that has brought op-



portunities for the industry to improve energy efficiency.

ABB has maintained a strong investment in research and development, even during difficult times. This commitment is helping the company keep its competitive edge in three key areas: energy efficiency, grid reliability and industrial productivity.

Upstanding local citizen

ABB strives to be a good corporate citizen in China by enthusiastically assuming social responsibility. Support takes a variety of forms, and ABB runs a wide variety of programs, including supporting education, environmental protection, charity and common wealth.

As talents are one of ABB’s greatest assets, ABB attaches much importance to education. ABB provided scholarship and other assistance to talented but needy university students in China to fulfill their dreams; the company cooperated with vocational schools in Xiamen and Chongqing to set up “ABB Class” to help skilled young workers develop; and ABB also donated money to rebuild Nanye primary school in China’s north province of Shanxi.

ABB also aims to build a better world by supporting various kinds of environmental protection campaigns. ABB joined hands with a key customer – Inner Mongolia Power Company – to fight against desertification in Ordos, a city in China’s north Inner Mongolia Autonomous Region.

4 ABB engineers repair damaged HV breakers at Mianyang Power Supply after the massive Wenchuan earthquake in Sichuan.



As a responsible multinational, ABB is dedicated to making sustainable contributions to the communities where it operates. ABB stood beside its Chinese customers in recovering from disaster – in 2008, ABB offered various forms of timely assistance, such as donations and on-site service, to help customers to walk out of severe snow storms and a massive earthquake 4.

In addition, ABB has raised about \$150,000 for a project to improve the housing conditions of 1,000 elderly people in Shanghai. ABB employees in China as well have made charitable contributions to their community: ABB employees in Xiamen participated in the “Water of Life” campaign; ABB employees also took part in the Shanghai Special Olympics to provide necessary support to disabled sportspeople.

A century has passed, and the win-win cooperation between China and ABB will enter into another century, and beyond.

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