SIEMENS

Siemens in China

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. Active around the world, the company focuses on intelligent infrastructure for buildings and distributed energy systems and on automation and digitalization in the process and manufacturing industries. Siemens brings together the digital and physical worlds to benefit customers and society. Through Mobility, a leading supplier of intelligent mobility solutions for rail and road transport, Siemens is helping to shape the world market for passenger and freight services. Via its majority stake in the publicly listed company Siemens Healthineers, Siemens is also a world-leading supplier of medical technology and digital health services. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power that has been listed on the stock exchange since September 28, 2020.

The history of Siemens in China dates back to 1872, when the company delivered the first pointer telegraph to China. The company manufactured the first steam generator and built the country's first tram line by the end of the 19th century. In 1985, Siemens entered a cooperation agreement with the Chinese government, becoming the first foreign company to participate in such a comprehensive cooperation scheme. For nearly 150 years, Siemens has pioneered cooperation with the country with its solutions, technologies and products.

In the past over 70 years, Siemens witnessed China's tremendous changes, especially since the country embarked on reform and opening-up, and has also

made great contributions to the prosperity of China's economy and society. China is now the second largest overseas market of Siemens.

Siemens has become an integral part of the Chinese economy and society. Offering a wide array of innovation and digitalization solutions in cooperation with local partners, Siemens is committed to the sustainable development of China. Siemens lives up to "being responsible, excellent and innovative" as its company values and dedicates itself to value creation and sustainable development with customer impact, growth mindset, technology with purpose and empowered people. The company supports customers to transform the industries that form the backbone of economies. That is what we call "Transform the everyday".

Innovation for China's development

Siemens develops the most promising products and solutions in China, for China and also for the world. The company creates technology with purpose and focuses on digital innovations, combining the global R&D systems and extensive network of innovation centers with local business needs. Siemens develops innovations to fulfill the needs of local customers and breathe fresh life into transformation and upgrade of China's industries.

Meanwhile, Siemens spares no effort to build an open innovation ecosystem in China. The company partners with local governments, leading enterprises, medium, small and micro-sized enterprises and start-ups, as well as universities and scientific research institutions to jointly develop future-oriented innovations and achieve win-win for all parties.

By fiscal 2020, Siemens had more than 4,600 R&D and engineering staff in Greater China, and 21 R&D hubs, as well as nearly 11,000 active patents and patent applications in China. Siemens' top-notch innovators work in world-class innovation labs in Beijing, Shanghai, Suzhou, Nanjing, Wuhan, Wuxi, Qingdao, Chengdu, etc. to contribute to China's innovation-driven development.

Officially opened in 2006, Siemens Technology China is the company's largest research branch outside Germany. Scientists at Siemens Technology China are dedicated to research, development and innovation, providing a strong boost to businesses and supporting sustainable growth of the company. Meanwhile, the organization is leading the company's global research in autonomous robotics with a focus on the R&D of new mechatronics systems, human-robot collaboration and application of artificial intelligence in robotic controllers.

In September 2016, Siemens Technology China, Suzhou opened with a focus on the R&D and applications of big data, industrial Internet of Things (IoT), connected city solutions, industrial cybersecurity and autonomous robotics. It was Siemens' first R&D hub focused on digital technologies in China.

In May 2017, Siemens announced the commercial release of its Cyber Security Operation Center service as part of its Cyber Defense Center (CDC) in Suzhou. Based on "defense in depth" concept, the center provides innovative industrial security services and solutions which take situational awareness as the core, safeguarding the digital transformation of enterprises. Siemens is the first international industrial company in China to have organization, infrastructure and portfolios certified with local security law and regulations.

In 2019 in China, the company opened its first AI Lab outside Germany. With the lab as a platform, Siemens is able to establish a global innovation network. Leveraging advanced technologies and best practices, Siemens provides Chinese customers with leading and practicable industrial AI solutions.

Siemens has a strong footprint in standardization. In China, with more than 85 representative seats in China's standardization committees and associations, Siemens has played an important role in drafting more than 180 national standards, 30 sector standards and several association standards.

As a business unit of Siemens, Siemens Advanta devotes itself to enabling the digital transformation of enterprises. With its combination of Siemens' rich experience in industrial operations management, advanced technology of Industrial Internet of Things (IIoT) and a powerful ecosystem of partners across industries, Siemens Advanta helps enterprises enhance resilience and improve innovations under complex circumstances, empowering the digital transformation of traditional businesses. In China, Siemens Advanta has about 100 consultants and hundreds of experts on IIoT design and implementation, ready to support projects of difference sizes ranging from IIoT consulting to comprehensive digital transformation.

Industrial Internet Enabling Centers are proved to be an innovative business model to deliver real impact for customers and partners. As of December 2020, Siemens Advanta had partnered with Yantai, Jining, Wuhan and Yulin to develop software and service-based Enabling Centers, which would empower local enterprises and upgrade regional industries.

In the healthcare sector, Siemens Advanta and KingMed Diagnostics joined hands to propel the development of laboratory diagnostics and optimize medical resources in China. Thanks to its lightweight methodology and expertise in healthcare, Siemens Advanta provided KingMed Diagnostics with strategic consulting on digital transformation, and co-created a sound blueprint of laboratory diagnostics 4.0.

Comprehensive portfolio for long-lasting partnership
Rooted in China, Siemens joins hands with customers and partners to co-create values in an open and inclusive ecosystem, supporting the high-quality and sustainable development of China's economy and society as the country enters a new era of development. By enhancing resilience, Siemens helps China march into a better future.

As a leader of cutting-edge technologies, Siemens is the strategic partner for the Guangdong-Hong Kong-Macao Greater Bay Area. In June 2019, Siemens' first Smart Campus Demonstration Showroom in the Greater Bay Area officially opened in

Hengqin, Zhuhai City, supporting the implementation of innovation-driven digital development strategy in the area.

In addition, by fiscal 2020, Siemens and Siemens Energy had worked with over 100 Chinese companies such as CEEC, POWERCHINA, CNPC, Sinopec Group, CNBM and CIMC Raffles to explore opportunities in over 100 countries and regions across six continents.

In China, as the manufacturing industry experiences a significant transformation from "Made in China" to "Innovated in China", Siemens helps manufacturers improve productivity and flexibility, shorten the time to market, and enhance environmental efficiency and cybersecurity. Siemens Digital Industries is thinking industry further by integrating forward-looking innovative technologies into its Digital Enterprise solutions to unlock infinite possibilities of efficiency and business model.

In July 2017, based on their existing cooperation framework, Siemens and NDRC signed an MoU that specified cooperative activities in areas of innovation and in the application of digital technologies. Siemens continues to offer Digital Enterprise solutions to support the upgrade and transformation of China's industrial sector.

In June 2017 in Beijing, Siemens opened its first Digitalization Experience Center (DEC) in the Asia-Pacific Region. The Center comprehensively exhibits the company's leading Digital Enterprise concept for "Industrie 4.0". By fiscal 2020, Siemens had built five DECs in Beijing, Shanghai, Suzhou and Chengdu.

In April 2019, Siemens MindSphere IoT-as-a-Service solution was deployed on Alibaba Cloud, and MindSphere ecosystem started to take shape. Over 200 companies in China develop and use applications on MindSphere. By fiscal 2020, Siemens had established six MindSphere Application Centers in Greater China.

In July 2020, Siemens' predictive maintenance system SiePA was honored the Red Dot Award 2020. Powered by Artificial Intelligence technology, SiePA helps customers

establish a closed-loop mechanism from intelligent early warning to advanced diagnosis, so as to ensure reliable and safe production for customers. In China, SiePA has been successfully deployed in many customer factories including Sinopec Qingdao Refining & Chemical.

In the iron and steel industry, Siemens entered into strategic partnership with HBIS Group in digitalization areas including MindSphere, digital factory, intelligent equipment, additive manufacturing and IoT, supporting the customer to become the most competitive steel enterprise. The two companies have jointly built the first unmanned material yard in China's metallurgical industry.

In the automotive industry, Siemens' Digital Enterprise solutions and SICAR standard specially for automotive industry supported BAIC Beijing Electric Vehicle to build the group's first mass production base for new energy vehicles in Qingdao. The production base is also a benchmark digital factory.

In the cement industry, Siemens provided the CR Power with a complete digital transformation blueprint from design to implementation tailored to their needs. With adoption of cutting-edge technologies, including digital twin, artificial intelligence and cybersecurity, at the Tianyang Base of CR Cement, Siemens is helping the manufacturing base transform toward a future-oriented intelligent factory.

By fiscal 2020, Siemens had supported hundreds of Chinese industrial enterprises in dozens of sectors to implement digital transformation and upgrade, setting benchmarks for digitalization of China's industries.

Smart Infrastructure intelligently connects energy systems, buildings, and industries, enhancing the way we live and work to significantly improve efficiency and sustainability. Through fruitful cooperation with customers and partners, Siemens Smart Infrastructure creates environments that care.

Beijing Daxing International Airport came into operation in September 2019. Siemens provided smart infrastructure solutions, ensuring efficient and safe operation of the airport. Siemens' intelligent building technologies helped facilities including terminals stay energy-saving, comfortable and safe. Meanwhile, Siemens' low and medium-voltage products guaranteed reliable energy supply of the airport.

In November 2020, Siemens and Chambroad Holding Group signed an agreement on strategic partnership to co-create solutions for power transmission, distribution and smart grid. In addition, the two parties would further cooperate in training workforces and developing talent strategy. Over the past years, Siemens has been working closely with Chambroad Holding Group on smart campus, smart grid and digital transformation.

In the area of building technologies, Siemens equipped Shanghai Tower with advanced energy management and intelligent building systems, including power distribution, energy automation, fire alarm control and intelligent lighting system, enabling intelligent management of the building and making it safer and more reliable. Moreover, Siemens provided Shanghai Lilacs International Commercial Center with integrated smart building solutions which have helped the building reduce operating cost by 30%.

Meanwhile, Siemens provides complete distributed energy system solutions to customers in the areas of utilities, public services and industrial verticals. Powered by machine learning algorithm, Siemens Digital Solar Operation Platform is capable of photovoltaic module-level inspection and diagnosis, boosting safety, efficiency and availability of power stations. So far, it has been applied at more than 10 photovoltaic power stations across China, including the one on the building rooftop at Siemens Beijing compound. This station is expected to help reduce 8,700 tons of carbon emissions for the compound over the next 25 years.

Siemens also joined hands with State Grid to help build China's first smart energy village. For Shanghai Lianmin Villiage Green Energy Application Demonstration Project, Siemens is customizing an integrated solution from planning consultation to the

deployment of core energy management platform. The project is estimated to help the village save energy consumption by 10%, and reduce CO_2 emissions by 50~55%.

Siemens is also exploring the rapidly growing data center market together with partners. Siemens provided Alibaba Zhangbei Data Center with energy management and building solutions, ensuring the efficient, safe and stable operation of the data center.

As a long-term, reliable and close partner of China's transportation industry, Siemens is dedicated to providing the most efficient, safe and environmentally friendly transportation products and solutions to the Chinese market.

Siemens provided the tailor-made Zhuhai Integrated Traffic Information and Service Platform for Zhuhai. This was the company's very first Traffic Management System turkey project in China.

In the field of urban rail transport, by fiscal 2020, 40 metro lines in 16 Chinese cites used Siemens' advanced metro signaling systems, boasting a total length of over 1,500 kilometers.

In December 2017, Siemens won the first Fully Automated Operation (FAO) project in China to provide train network control systems and traction system core components, and to supply FAO function design including train circuit design for FAO trains in Shanghai Metro Line 18 Phase I project. The Metro Line has successfully opened for revenue service with GoA4, the highest level of automation, on December 26, 2020. This marked an important breakthrough and a milestone for Siemens in China's FAO market.

In addition, Siemens also focuses on innovation in the mobility area. In December 2017, Siemens signed a framework agreement with the municipality of Jin'an District in Fuzhou to establish the first Siemens Mass Transit Signaling Innovation R&D Center in China.

In November 2019, Siemens launched its first Intelligent Connected Vehicles test project in China, providing comprehensive solutions including ICV infrastructure and virtual simulation platform for the Suzhou Industrial Park ICV test field. In September 2020, Siemens partnered with Chongqing Liang Jiang New Area to establish its first Intelligent Transportation 5G Center of Competence in China.

As a leading medical technology company, Siemens Healthineers enables healthcare providers worldwide to increase value by empowering them on their journey toward expanding precision medicine, transforming care delivery, improving the patient experience, and digitalizing healthcare.

In China, the company's installed base is around 61,000 units, covering more than 13,800 hospitals. Every day, through Siemens Healthineers products, around 1.6 million people receive diagnostic tests, 350,000 people receive CT and MR scans, and 10,000 people receive interventional procedures.

On March 2, 2020, with the 5G Remote Scanning Assistant (RSA) function, Siemens Healthineers' relocatable CT solution was delivered to Huanggang Makeshift Hospital and put into operation to fight against COVID-19. During the period of regular epidemic prevention and control, it helps optimize the allocation of high-quality medical resources, improve the diagnosis and treatment skill level of doctors in primary hospitals, and benefit the people in poor and remote areas.

Utilizing its cutting-edge technology and strong capital, Siemens also provides worldwide customers with professional and reliable financial solutions. In China, the company drives business success with customized leasing solutions for Siemens equipment and third-party products in sectors such as machine tools, construction machinery, transportation and logistics, electronics, packaging, food and beverage, plastic injection and glass deep-processing, etc.

From fiscal 2005 to fiscal 2020, Siemens Finance and Leasing Ltd. financed more than 3,000 public and private hospitals, helped over 2,000 enterprises upgrade equipment, and established strong relationships with hundreds of manufacturers and dealers.

Value creation for the society

Actively fulfilling corporate social responsibility and focusing on creating values for the society is a core mission of Siemens. As a good corporate citizen, the company has made constant efforts to contribute to the public welfare in China, focusing on creating values for the society through its portfolio, innovations, local operations, people development and activities in corporate social responsibility.

In addition to monetary donations, Siemens provides relevant products and solutions to contribute knowledge, experience and technological assistance to entities in need. Siemens employees also actively participate in voluntary activities jointly organized by Siemens and non-profit organizations.

Siemens Employee Volunteer Association (SEVA) was launched in 2012 as a platform of volunteering and cooperation for the employees, the company and the society. By fiscal 2020, SEVA had organized 435 volunteering events in 17 cities across China, benefitting hundreds of thousands of people.

Over the years, the company has been actively engaged in a variety of corporate social responsibility activities with a focus on three areas: Access to Technology, Access to Education and Sustaining Communities.

Starting from 2018, Siemens joined hands with partners to upgrade and retrofit power distribution systems of Yangpo Village in Guizhou to ensure electrical safety of the traditional village, creating value for the society in a responsible way.

The company is committed to aligning business activities with the interest of future generations. Siemens is the first global industrial player that set itself the target of becoming CO2-neutral in all of its operations by 2030. Between 2014 and 2020, the

company reduced the carbon footprint of its own value chain by 54%, achieving its interim target of slashing its CO_2 emissions by half.

In 2016, Siemens renewed the MoU with the Ministry of Education in a bid to boost cultivation of innovation-oriented talents. By fiscal 2020, Siemens had built more than 400 laboratories in China through cooperation with schools, trained over 4,000 teachers engaged in frontline teaching, and published over 2 million copies of textbooks. The company sponsored "Siemens Cup" China Intelligent Manufacturing Challenge for 14 years and cultivated nearly 60,000 innovative engineering talents. Siemens also advocates the talent development concept "New Engineer" with partners to cultivate compound talents with multi-specialty and interdisciplinary in the era of digitalization. The company ranked No.1 among Industrial Engineering companies in the Most Attractive Employers in China ranking of Universum for seven consecutive years.

In the past over 10 years, Siemens has cooperated with about 90 universities and research institutes on about 780 R&D projects in Greater China. The Center of Knowledge Interchange (CKI) program represents Siemens' top-level and long-term strategic collaboration with global universities in R&D and talent cultivation. In China, Siemens has built up CKI strategic ties with Tsinghua University to further promote the cooperation on scientific and technical exchanges and talent development. In October 2017, Siemens extended the Master Research and Development Agreement with Tsinghua University for another five years, leading the CKI collaboration into its third phase in China.

In June 2019, Siemens signed a strategic cooperation framework agreement with Shenzhen Technology University (SZTU) to deepen their partnership in cultivating talents in intelligent manufacturing, helping SZTU become an open, innovative and international applied university.

Every year, Siemens holds more than 30 technology lectures and career lectures, both online and offline, at universities countrywide. The company also holds Siemens Open Day events and establishes Siemens Student Circle at many universities. Meanwhile,

Siemens provides full-time job opportunities for the graduates every year. A large number of graduates from top universities in China have joined Siemens trainee programs including Siemens Sales Trainee Program "Sales 100", Siemens R&D Trainee Program "R&D 100", Siemens Engineer Trainee Program "Engineer 30", Siemens Graduate Program SGP, etc. In addition, Siemens has gradually established the Campus-Hub campus learning center and Talent Training Base in various universities across the country to cultivate intelligent manufacturing talents.

As for primary education, Siemens I-Green Education Program, launched in 2009, targets migrant children in primary schools in China to raise their awareness of environmental protection and help them better integrate into city life. By fiscal 2020, the program had been rolled out in 11 schools of migrant children in 10 cities, including Beijing, Shanghai, Wuhan, Guangzhou, Kashgar, Shenzhen, Chongqing, Nanjing, Xi'an and Chengdu, benefitting over 24,000 migrant children. Nearly 2,800 Siemens employee volunteers devoted over 29,800 hours to this program.

As one of the core projects of China Education Support Project, Siemens I-Green Education Program - University Students Summer Project was officially launched in 2018. By fiscal 2020, the project had supported 751 student volunteers from 17 universities to teach classes at 52 sites in 27 provinces and autonomous regions across China. A total of 2,138 hours of Siemens I-Green classes held by student volunteers benefited tens of thousands of students and teachers in rural areas. Meanwhile, nearly 100 experienced Siemens volunteers who are passionate about public welfare were recruited as I-Green mentors to empower students with professional skills.

Siemens commits itself to sustainable development of the society by taking initiatives including organizing various activities for environmental protection, supporting development of NGOs, providing social assistance to disadvantaged groups and providing immediate technological and humanitarian assistance in case of natural disasters.

In February 2020, Siemens China together with Siemens Healthineers China donated Siemens Healthineers medical equipment worth RMB 15 million in support of China's efforts to combat against the COVID-19 outbreak. Over 6,200 employees from Siemens entities in China also jointly pledged a donation totaling RMB 2.2 million in support of China's fight. The accumulated donation by the company and employees was used to purchase much-needed Siemens Healthineers medical equipment, and the donation was conducted through cooperation with Wuhan Youth Development Foundation.

In 2007, Siemens joined hands with Nanjing University, Consulate General of the Federal Germany in Shanghai and other partners to establish the John Rabe and International Safety Zone Memorial Hall, as well as the Development Fund for John Rabe International Research and Exchange Center for Peace and Reconciliation. For 15 consecutive years, Siemens sponsored the fund and made contributions to promoting John Rabe's humanitarian and volunteering spirit.

Siemens' long-term commitment to corporate social responsibility is widely recognized by the Chinese society. In May 2019, Siemens was honored "More Than A Market Award 2019" by the German Chamber of Commerce in China. With the outstanding performance of I-Green Education Program - University Students Summer Project, Siemens received three honors at the 4th CSR China Education Award in September 2020, including "CSR China Top 100", "Youth Impact of the Year Award" and "Volunteer Service Honor Award". The biennial award is a recognition of Siemens' continuous effort in supporting education and fulfilling corporate social responsibility in China. In November 2020, Siemens China was honored the "Special Award - Excellence in managing the COVID crisis" at the 7th CSR Awards ceremony held by the European Union Chamber of Commerce in China. In January 2021, Siemens received the "Charity Driver Award 2020" at the 10th China Charity Festival, which was the sixth time in a row that Siemens had been awarded at the Festival. The award recognized Siemens' dedication to corporate social responsibility and efforts of actively promoting social charity undertakings in the country.

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