SIEMENS

Siemens in China

Siemens AG is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the world’s largest producers of energy-efficient and resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. The company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT.

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, “Memorandum of Comprehensive Co-operation between Machinery, the Electric and Electronics Industries of the People’s Republic of China and Siemens AG” marked a comprehensive cooperation between Siemens and China. For more than 145 years, Siemens has pioneered cooperation with the country with its solutions, technologies and products, and has been known in the country for its quality and reliability, technological excellence and innovation.

Siemens has witnessed the tremendous changes that have taken place since China embarked on reform and opening-up. The company has also made great contributions to the reform drive of the country. In fiscal 2017 (October 1, 2016 – September 30, 2017), Siemens generated revenue of €7.2 billion in China. With
over 32,000 employees, Siemens is one of the largest foreign-invested companies in the country.

Siemens has become an integral part of the Chinese economy and society. Offering a wide array of Environmental Portfolio and innovative solutions in cooperation with local partners, Siemens is committed to the sustainable development of China with a brand claim of “Ingenuity for life”. On the way to “Vision 2020”, the company makes real what matters to create sustainable values for customers, employees and the society.

As China pushes forward the Belt and Road Initiative, more and more Chinese companies are surfing the “go global” tide and playing an active role in the international arena as EPC (Engineering, Procurement and Construction) contractors. With leading technologies, complete portfolio, global network, financial solutions and flexible service models, Siemens cooperates with Chinese EPCs in fields including infrastructure, power, oil & gas and chemicals, and industry. By 2017, Siemens had worked with over 100 Chinese companies such as POWERCHINA, CEEC, CNPC, Sinopec Group, CNBM and CIMC Raffles to explore opportunities in over 100 countries across six continents.

Innovation for China’s development
To further strengthen its power of innovation, Siemens plans to increase its global investments in R&D in fiscal 2018 (October 1, 2017 – September 30, 2018) by around €450 million to over €5.6 billion.

In China, Siemens focuses on digital innovations and combines the extensive network of innovation centers and global R&D systems with local business needs. Siemens develops innovative products and solutions 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 situation for all parties.

By fiscal 2017, the company had 21 R&D hubs, more than 4,500 R&D and engineering staff, and around 12,000 active patents and patent applications in China. Siemens’ top-notch innovators are working in world-class innovation labs in Beijing, Shanghai, Suzhou, Nanjing, Wuhan, Wuxi, Qingdao, Chengdu, etc. to contribute to China’s “Indigenous Innovation”.

Siemens Wuxi Innovation Center was established in 2013. Based on local demands, the innovation center carried out extensive cooperation with local enterprises in fields including intelligent equipment, transparency factory, PROFINET, etc. to support industry upgrade and enterprise automation. Wuxi Innovation Center has cooperated with Miracle Automation Engineering Co., Ltd. to develop the digital car assembly line in an Internet of Things demonstration project, helping the company to increase quality of products and services and realize fast business growth.

In 2016, Siemens launched “Siemens China Innovation Center Initiative”, focusing on innovation in the area of digitalization. Under this initiative, Siemens Qingdao Innovation Center was set up in March 2016. This center was Siemens’ first innovation center of intelligent manufacturing outside Germany. In September 2016, Siemens Corporate Technology Suzhou opened with the focus on researches of big data, the web of systems, connected mobility, cyber security solutions and industrial robotics.

In January 2017, Siemens opened Wuhan Industry Maker Space to explore and establish innovation models and industrial ecosystem of intelligent manufacturing in China together with partners. Siemens will also cooperate with local universities and scientific research institutions to accelerate innovations in medium-sized, small and micro enterprises. Wuhan Industry Maker Space was a part of Siemens Wuhan Innovation Center. The center was established in 2013 with focus on R&D in areas
including Industrial Internet of Things data integration and application support technology, intelligent manufacturing, smart water, etc.

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, China. Siemens industrial security specialists based in Siemens Corporate Technology Suzhou monitor customers’ digital factories and production lines, identify cyber threats facing customers, warn owners in the event of security incidents and coordinate proactive countermeasures. Siemens China CDC is also integrated into the global footprint of other Siemens Cyber Security Operation Centers already in operation in Munich of Germany, Lisbon of Portugal and Milford of the USA.

Meanwhile, Siemens China will lead the company’s global research in autonomous robotics with focus on the research and development of new mechatronics systems, human-robot collaboration and the application of artificial intelligence in robotic controllers. In line with this strategic move, Siemens has also entered into partnership with Tsinghua University to jointly set up Tsinghua University – Siemens Joint Research Center for Advanced Robotics in Beijing.

Comprehensive portfolio for long-lasting partnership
In China, as China’s manufacturing industry is experiencing a significant transition from “Made in China” to “Innovated in China”, Siemens helps manufacturers enhance production efficiency and flexibility, improve product quality, and shorten the time to market of new products.

In July 2017, based on the existing cooperation framework between Siemens and China’s National Development and Reform Commission (NDRC), the two parties signed a Memorandum of Understanding (MoU) that specified cooperative activities in areas of innovation and in the application of digital technologies. In response to the “Made in China 2025” and “Internet+” initiatives, Siemens will continue to offer Digital Enterprise solutions to support the upgrade and transformation of China’s industrial sector.
With expertise and rich experiences in digitalization area, in June 2017, Siemens opened in Beijing the first “Digitalization Experience Center” in Asia-Pacific Region. The Center comprehensively exhibits the company’s leading Digital Enterprise concept for “Industrie 4.0”. In August 2017, Siemens Process Industry Digitalization Experience Center opened in Shanghai to demonstrate Digital Enterprise solution for process industry with “Digital Twin” as the core.

Siemens’ digital technologies have already helped Chinese companies of different types and scales realize transformation towards digitalization. Siemens has joined hands with Hangzhou Wahaha Group Co., Ltd. in a digital and intelligent upgrade project of a water/aerated water line that produces pure water and aerated beverages at Wahaha Xiasha Production Base No. 2 in Hangzhou. In the food and beverage industry, this was the first intelligent manufacturing demonstration pilot project under the Ministry of Industry and Information Technology. It was also the first digital and intelligent beverage production line in China.

In the process industry, Siemens focuses on creating long-term values and increasing return on investment for customers. The company has signed a strategic partnership framework with Sedin Engineering Co., Ltd., whereby the two parties joined forces to create “Industrie 4.0” solutions for the coal chemical sector. Integrated engineering and operation solutions from Siemens for process industries are fully deployed at Sedin to underpin the latter’s digitalization initiative.

In 2016, Siemens provided an advanced Power Package System including the DP3 Closed Ring Power Solution for “BLUEWHALE I”, the semisubmersible drilling rig with the greatest operating water depth and drilling depth, built by Yantai CIMC Raffles Offshore Limited., to ensure energy-efficient, stable and safe operation of the rig.

In addition, Siemens has also cooperated with China Baowu Steel Group on intelligent manufacturing empowerment, joined hands with Cathay Industrial Biotech Ltd. in
building an advanced digital factory in Wusu, Xinjiang Uygur Autonomous Region, and also signed strategic partnership with Jinyu Bio-technology Co., Ltd. to help it build up a world-class intelligent bio-tech industrial park.

As a committed partner to China’s energy industry, Siemens focuses on pushing forward the application of digital technologies in the industry. In October 2017, Siemens signed an agreement with China Resources Power Holdings Co., Ltd. (CR Power) to implement the setup of an integrated and connected Remote Operation Center (ROC) for CR Power’s fleet. This is Siemens’ first digitalized power ROC in China. The center will use Siemens’ cloud-based open IoT operating system MindSphere for integration and connectivity.

Siemens has always been pursuing energy efficiency and reducing greenhouse gas emission. In early 2017, Siemens received an order to deliver a power block for a new combined cycle in Black Point Power Station in Hong Kong. This is the first H-class power plant project in Greater China. Scheduled to start operation by 2020, the plant will have an installed total capacity of 550 megawatts to supply approximately 1 million households with electricity per month.

In addition, in February 2017, Siemens Gas Turbine Components (Jiangsu) Co., Ltd. (SGTC), located at Yixing economic development zone, was opened. SGTC mainly manufactures gas turbine hot gas path parts, including turbine blades and vanes for Siemens’ advanced gas turbines. The plant doesn’t only serve as an important hub to provide power generation components and timely services to Chinese customers, but also fulfills demands from the global market. The establishment of SGTC will greatly improve Siemens’ capability in local manufacturing and providing local services.

In 2016, Siemens signed a Memorandum of Understanding with Hangzhou Steam Turbine Co., Ltd. (HTC) and Golden Concord Power Group Limited (GCL). The three parties would take the opportunities of GCL’s distributed energy projects to strengthen development and utilization of natural gas powered distributed energy, and maintain
long-term strategic cooperation in utilization of other clean and efficient energy in the future. In June 2017, Siemens secured an order of two SGT-800 gas turbines in Chengdu. Together with HTC, the two gas turbines provided for CPID (Chengdu) Comprehensive Energy Service Co., Ltd. will be deployed in the distributed energy station project in Chengdu Hi-Tech Industrial Development Zone in Sichuan Province. The project is expected to come into operation in October 2018.

Moreover, in August 2017, Siemens was awarded two orders to supply power generation equipment for Penglai 19-3 oil field project and Dongfang 13-2 gas field development project of China National Offshore Oil Corporation Limited. In September, Siemens won an order from China’s largest acrylic product producer, Zhejiang Satellite Energy Co., Ltd. to provide a reactor effluent compressor train for Phase II of its propane dehydrogenation plant in Pinghu City, Zhejiang Province.

In power generation services, Siemens continues to strengthen localization in China, aiming to help local customers maximize operation efficiency and reduce risks. In February 2017, Siemens was awarded an order of a long term service program (LTP) by East Asia Power (Wuxi) Co., Ltd. Siemens will provide professional services to the customer’s two latest SGT5-4000F gas turbines, including scheduled maintenance and spare parts. This is the first LTP contract signed with Siemens China local entity, which represents an important milestone for the progress of Siemens gas turbine services’ localization strategy.

Meanwhile, by adopting Siemens’ upgrade solution tailored for SGT5-4000F gas turbines, Zhengzhou Gas Power Generation Co., Ltd. won the “Silver Award of Power Plant Upgrade of the Year” at the 2017 Asia Power Awards.

With digital technologies, Siemens has also helped partners in areas such as energy management, mobility and buildings to build intelligent infrastructure and enable digital cities.
In December 2017, Siemens and Hong Kong Science and Technology Parks Corporation announced the official opening of Smart City Digital Hub. Powered by MindSphere, the Hub will tackle city challenges and unleash potential of digitalization that is rising rapidly in Asia. While dedicated to building an innovative ecosystem, the Hub also offers start-ups and infrastructure providers a platform to create their digital portfolio and develop smart city solutions.

Siemens also equipped Shanghai Tower with advanced energy management and intelligent building systems, including power transmission and distribution, energy automation, fire alarm control and intelligent lighting system, enabling intelligent management of the building, and making it safer and more reliable. The power consumption of Shanghai Tower is equivalent to that of a small town with a population of 50,000.

Together with local partners, Siemens delivered the world’s first ±1,100 kilovolt (kV) high-voltage direct-current (HVDC) transformers for the world’s first 1,100 kV HVDC transmission link between Changji and Guquan. The transmission link, currently the world’s most powerful HVDC transmission system, is 3,324 km long with a transmission capacity of 12 gigawatts.

In addition, Siemens actively engages in the progress of transforming China’s energy system towards decentralized energy system. The company is able to provide complete distributed energy system solutions to customers in areas of utilities, public services and industrial verticals. In July 2017, the distributed photovoltaic (PV) project was successfully operated at Siemens Circuit Protection Systems Ltd., Shanghai (SCPS). Siemens and its partners provided a complete distributed energy solution for SCPS turnkey distributed PV project, including hardware and software. The project is a demo project for Siemens to promote distributed energy business in China.

In the rapidly growing data center market, with advanced technologies and rich experiences, Siemens won major orders. It provided Totally Integrated Power solutions
for Tencent data center to ensure stable and safe power supply. Moreover, the chiller plant optimization solution from Siemens could protect data center server to ensure smooth operation and maximum energy efficiency.

In the area of mobility, Siemens helped build Zhuhai Traffic Information and Comprehensive Service Platform. The Platform has adopted the “green traffic index system” and is able to collect, sort out and analyze mass data in real time to provide a quantitative basis and criterion for the city’s decision-makers, and bring mobility convenience to residents. In September 2016, Siemens was awarded the order of Zhuhai Traffic Management System Phase II project. Siemens further upgraded and improved functions of the existing platform and systems and also added in more functions. In October 2017, the third-party evaluation of Phase II was successfully completed. The project has also passed the inspection.

By December 31, 2017, 33 operating metro lines with a total length of over 1,000 km in 15 cities have been equipped with Siemens’ safe and reliable signaling systems.

In March 2017, the consortium formed by Siemens, CRRC Zhuzhou Locomotive Co., Ltd. and a local company in Malaysia won a bidding of Malaysia Light Rail Transit Line 3. The line will adopt unattended train operation (UTO) of GoA4 level, the highest level of automation. Siemens will provide a propulsion system, components and related services to the line.

In December 2017, Siemens won the first UTO project in China and will provide core components and key technologies of traction system for UTO trains in Shanghai Metro Line 18 Phase I project. This is an important breakthrough and a milestone for Siemens in China’s UTO market.

In the tram line business, Dahanyang Modern Tram Test Line, the first tram line in Wuhan equipped with Siemens technology, has been put into trial operation in July 2017. Together with CRRC Zhuzhou Locomotive Co., Ltd., Siemens supplied core
components including the propulsion, train control, braking systems and bogies, as well as technical supports to these 21 100% low-floor trams. Wuhan is the fourth city equipped with Siemens 100% low-floor trams after Guangzhou, Huaian and Shenzhen.

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 of Fuzhou to establish the company’s first mass transit signaling innovation R&D center in China. Fuzhou Siemens Mass Transit Signaling Innovation R&D Center will introduce the most advanced technologies in mass transit signaling area to Chinese market and focus on innovations that meet local demands. The center will focus its research on UTO signaling technology, signaling interconnection between mainline railways and metro lines, MindSphere and applications of big data in transportation.

In the area of building technologies, in October 2017, Siemens signed an original equipment manufacturer (OEM) agreement with Guangdong Midea Heating & Ventilation Equipment Co., Ltd. (Midea) in Foshan, Guangdong Province. Midea will use Siemens building management supervisor software to operate large heating, ventilation and air conditioning installations. The solution is based on the Desigo CC open building management platform and can meet the customer’s requirements, as well as support plug-and-play integration of Midea equipment.

Besides, Siemens also provided intelligent building automation system to the Passive House Technology Center at Qingdao Sino-German Ecopark. The building achieved the goal of being a nearly zero energy consumption building and provided a perfect living environment to people.

As one of the world’s leading suppliers of healthcare solutions, Siemens offers customers medical products and solutions covering prevention, early detection, diagnosis, treatment and aftercare to support China’s medical institutions at various levels. Through the six business areas including Diagnostic Imaging, Advanced Therapies, Laboratory Diagnostics, Point of Care Diagnostics, Services and Ultrasound,
Siemens provides various products including CT, MR, X-ray, ultrasound and in-vitro diagnostic equipment, and also provides angiography system and combined operating room solution, integrated mammary solution, tumor diagnosis and treatment solution, etc. to customers from China and worldwide. With advanced technology, Siemens keeps innovating in high-end medical imaging and diagnosis, helping customers with efficient, accurate and safe medical diagnosis services. The company has become a trusted partner to medical organizations.

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 equipments and third-party products in sectors such as machine tools, construction machinery, transportation, electronics, packaging, and food and beverage. Since 2005, Siemens Financial Services has financed more than RMB 10 billion of healthcare assets in China, helped thousands of hospitals and small and medium-sized enterprises to upgrade equipment and established strong relationships with hundreds of renowned manufacturers and dealers.

**Value creation for society**

As a trusted partner dedicated to China’s economic and social development, Siemens has been actively engaged in corporate social responsibility programs and activities to promote access to technology and access to education, and contribute to sustainable community. Founded in 2012, Siemens Employee Volunteer Association (SEVA) has organized volunteering activities in 17 cities and benefited tens of thousands of people across China.

Siemens is committed to aligning business activities with the interest of future generations. The company aims to become the world’s first major industrial company to achieve a net-zero carbon footprint by 2030 and plans to cut its CO₂ emissions by half by as early as 2020. To achieve these goals, Siemens will invest some €100 million
over three years from fiscal 2016 to reduce energy footprint of its production facilities and buildings.

In 2016, Siemens renewed the MoU on Educational Cooperation with the Ministry of Education in a bid to boost cultivation of innovation-oriented talents for China’s national strategy “Made in China 2025”. By fiscal 2017, Siemens has established good relationships with about 300 Chinese universities and vocational schools and helped universities and institutions build labs. The company has also set up Siemens scholarships to further promote the cooperation on scientific and technical exchanges, as well as talent cultivation. Siemens has been sponsoring the “Siemens Cup” China Intelligent Manufacturing Contest for 11 years to support development of innovative engineering talents.

In 2017, Siemens and Guangdong Department of Human Resources and Social Security signed a letter of intent for the set-up of the Sino-German Siemens Technology (China) International Institute. In the coming 10 years, the two parties will, based on the academy, cooperate on program and curriculum development, teaching, internship and faculty and student empowerment to explore a dual-system vocational education path with Chinese characteristics.

As for primary education, Siemens I-Green Education Program is an educational program for China’s migrant children in primary schools to raise their awareness of environmental protection and help them better integrate into city life. Since its launch in 2009, the program has benefited more than 22,500 students. More than 2,500 Siemens employee volunteers have devoted about 20,000 hours to this program.

Moreover, Siemens is also supporting the development of NGOs, providing social assistance to disadvantaged groups, and providing immediate technological and humanitarian assistance after natural disasters.
In 2007, Siemens joined hands with Nanjing University, Consulate General of the Federal Germany in Shanghai and other partners to establish Development Fund for John Rabe and International Safety Zone Memorial Hall and John Rabe International Research and Exchange Center for Peace and Reconciliation. In 2016, Siemens renewed the sponsoring agreement to make further contributions to the fund for the next five years to continue promoting John Rabe’s humanitarian and volunteering spirit.

###

For further information, please contact:

Mr. Hu Yue
Communications
Siemens Ltd., China
P.O. Box 8543, No, 7 Wang Jing Zhong Huan Nan Lu,
Chaoyang, Beijing
Tel.: (+86 10) 6476 2758
Fax: (+86 10) 6476 4922
E-mail: yue.hu@siemens.com